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Many Wisconsin Mills On Full Time Schedule

Survey by State Director of Employment Empey Shows Paper Industry Possesses Most Consistent Operating Record In Badger State—Manufacturers Apparently Able to Maintain Status During Coming Months—Favorable Situation Reported Especially Noticeable In Green Bay—Northern Paper Mills Rumors Denied

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 2, 1932—Satisfactory levels of employment were recorded in the paper industry in Wisconsin during March, according to a survey announced by Roy Empey, state director of employment. Full time operating schedules are in effect in a number of mills, and this situation is especially noticeable in Green Bay, Mr. Empey said. The paper industry has had perhaps the most consistent operating record of any manufacturing activity in the state and appears to be able to maintain that status for the months to come.

Rumors circulated at Green Bay relative to the Northern Paper Mills, large manufacturers of tissue specialties, made it necessary for W. P. Wagner, president, to issue a statement to the press denying them. Unfounded reports were abroad that the mill was about to close down, that it was near receivership and that four hundred employees were to be laid off.

"Of course we have been affected by present conditions," Mr. Wagner said, "but there is nothing alarming in the situation. We have met our interest payments and have planned to continue doing so. Some time ago wages were reduced ten per cent—the first reduction in the wage rate since the beginning of the depression. Prior to that, the shifts had been 'staggered' and reduced from eight to six hours to give more men work, but there had been no reduction in the hourly rate.

"It is true the number of men at work is not as large as during peak times, and we do not know whether we will be able to operate without further curtailment, but talk of a receivership or general layoff is entirely unwarranted."

Extensive Reforestation Program

Some idea of the extensiveness of the reforestation plans for the federal forest areas in Northern Wisconsin is contained in a report given out by R. B. McKennan, assistant United States forest supervisor stationed at Park Falls. Nearly three-quarters of a million dollars will be spent over a twenty-year period.

Data obtained when the land was examined preliminary to purchase is the basis of the program. In the Moquah unit at Bayfield, 100,200 acres out of 110,000 will require reforesting. On a rough estimate, 80,000 acres will be planted to Norway pine, 9,000 acres to white pine, and 3,000 acres to white spruce. Estimated cost of the twenty-year program is $271,000.

A total of 94,156 acres will be reforested out of 147,000 acres in the Flambeau unit, with 10,500 acres planted to Norway pine, 14,000 to white pine, and 31,000 acres to white spruce. About 14,000 acres of swamp land may be planted to black spruce. Estimated cost is $330,000.

Providing fires can be kept out of present slash areas on the Oneida unit, it will be necessary to reforest only about 43,000 acres of the 141,000 acres examined, at an estimated cost of $144,000. There will be 14,000 acres of Norway pine, 5,000 of white pine, 21,000 of white spruce and 3,000 of black spruce.

About 165,900,000 trees will be planted on the three units, requiring capacity operation of the nursery at Rhinelander for seventeen years. Appropriations from Congress for this work are based on this program.

Safety Movement Grows

Accomplishments of industrial safety were outlined by W. J. Peacock, personnel director of the Northern Paper Mills, Green Bay, Wis., in an address last week before the Menominee Club, Menominee, Mich. The movement is now in its twenty-first year, he said, and has gradually come to a man-sized point of view regarding its aims. Salvaging human resources bulks even more than salvaging property or machinery.

"Salvaging employee's bodies whole is an aspect of safety work which lifts it out of the emotional stage and gives it the worth of a science," he declared. "To discover the possibility of accidents before they happen, and to remove causes, will eliminate nine out of ten injuries. This sort of thing makes organized safety work a grand game, pitting wits against chance.

"Out of the first twenty-one years of organized safety in industry have come these three suggestions or goals: To salvage manhood even when a person is maimed in body; to salvage people whole by eliminating or guarding hazards, and to salvage employees in their attention, their cooperation, their desire to bulk large, and to attract their finer talents, makes the safety movement increasingly interesting."

Philadelphia Paper Market Displays Firmness

Although Demand for Various Standard Grades of Paper Is Spotty, Quotations Are Well Maintained, In Most Instances—Kraft Wrapping Paper Division Exhibits Strong Undertone—Paper Bags and Converted Products In Fairly Good Request

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 2, 1932.—Though the paper industry is not keeping pace with anticipated upward strides predicted a few weeks back, there is a brighter side exhibited in the steadiness of prices and general stability of all lines of both fine and coarse grades. Competition is keen for the business that is to be had but dealers are not seeking orders at destructive prices of the past year and have been confining their efforts to securing whatever purchases consumers may make at the sounder quotations of the current market. Of course there are reductions in all lines of fine paper at attractive prices, so that if any business is to be secured these present day quotations are sufficient inducement to consumers to place their orders without haggling. The wrapping paper division is slightly better although confined to spotty demand with seasonal grades most active but not moving in considerable quantities. It is reported that kraft holds steady and that northern mills are again coming into competition with southern manufacturers in the Philadelphia trade. This meeting of the southern prices by northern manufacturers may affect some of the paper dealers who cater to the northern boundary of Pennsylvania, where the New York State mills are closer. Bags and converted products are in fair demand though orders are of spotty character. Box manufacturers are slowing down as the Spring season wanes and the summer days are anticipated with their usual dullness. Converters of gummed sheets and tapes and small roll products are fairly active.

Scott Paper Co. Reports

The Scott Paper Company, of Chester, Pa., reports net profit for the three months ending March 31, 1932, of $264,715, equal after payment of preferred dividends to $1.32 a share on 168,792 shares common stock outstanding at the end of the period, compared with net profit for the three months ended March 29, 1931, of $303,974, equal to $1.63 a share on 162,253 shares of common stock outstanding at the end of the period.

Paper Jobbers Hear David Kassen

An elucidating talk on the functioning and progress of the united efforts of the metropolitan paper jobbers was given to the members of the Philadelphia Paper Jobbers Association at the meeting held Thursday evening at the Elks' Hotel. The speaker was David Kassen, chairman of the Cosmopolitan Paper Jobbers' Association of New York City. His discourse centered around the experiences of that association in trade developments and its attainments in welfare of both the members and the paper jobbing industry of the metropolitan area coming under its direction. He took up problems which the organization had to confront and the measures applied in remedying of abuses in the trade. He gave helpful suggestions to the Philadelphia association on their own line of work which will form a guidance in perfecting its program for trade well being.

The members acted upon the charter and passed a resolution instructing their attorney to apply for a charter under the laws of Pennsylvania. Nathan D. Isen, president of the association, and head of the Enterprise Paper Company, presided. The proposed talk on the work and survey of the New York, Boston, and Pittsburgh paper jobbers' associations by President Isen and Charles Resnick, of L. Resnick & Sons, was postponed until a later meeting owing to the interesting talk of the visiting New York executive. There are now thirty members, representing as many paper jobbing houses enrolled in the recently organized Philadelphia Paper Jobbers' Association, and all were present at the meeting.

Hooper Paper & Twine Co. Celebrate

With fourteen associates of the staff and officials of the Hooper Paper and Twine Company, 105 Church street, joining in the dinner and bridge party given by the firm, the eleventh anniversary was a gathering of amity and fellowship graced by the presence of the ladies and the hospitality of the members of the company. The anniversary was celebrated last Saturday at the Hotel Pennsylvania. Following the dinner there was a game of bridge with prizes distributed to the winners. Preston T. Rhodes, Jr., won the first prize for men, and A. D. Forrest the second. Mrs. Rhodes won the first award for the ladies, while Mrs. Joseph Brower won second. George K. Hooper, president of the firm, presided, and gave a brief history of the business from its founding eleven years ago, when it opened doors at 145 South Front street, to its removal to 270 South American street and its acquisition two years ago of the present five story structure at the Church street address. Edwin V. Rementer, secretary, greeted the staff on behalf of the firm, and was followed by Vice President E. F. Hooper, with like word of cheer. Frank B. Hooper, father of George K. Hooper, founded the business with his son, and is still associated with the firm, but was not present at the gathering. A token of the good will existing between the staff and the head of the firm was the artistic desk lighter and humidor presented to President Hooper at the dinner and engraved with an appropriate sentiment of the anniversary. It was presented by Mr. Rhodes, who is the oldest salesman in point of service with the firm. Mr. Rementer was awarded the consolation prize at bridge.

Morris Lowe Registers New Firm

Morris Lowe, who was recently involved in bankruptcy, and who formerly traded as the Universal Paper and Twine Company, has filed with the Secretary of the State of Pennsylvania his new affiliation with the paper industry as the Paper and Twine Corporation, with offices and sales rooms in the Bailey Warehouse. He will conduct a wrapping paper, twine and specialty business. Mr. Lowe has been connected with the paper trade for more than fifteen years.

DuPont Cellophane Eastern Headquarters Moved

With the announcement of the acquisition of new offices in the Philadelphia territory it was stated that the Eastern District sales offices of the DuPont Cellophane Company, Inc., would be removed from New York City to new quarters on the nineteenth floor of 1616 Walnut street. There will be assembled under a single roof all the sales divisions of E. I. duPont de Nemours & Co., including the cellophane, rayon, chemical, paint and varnish divisions.

W. O. Henderson, who is Eastern District sales manager for the DuPont Cellophane Company, will move his headquarters from New York to the new location and Assistant Sales Manager Veasey C. Clark, who has been looking after Philadelphia territory cellophane sales will take offices in the same quarters, removing from the Liberty Title and Trust Building.

U. S. Envelope Officials Attend Greeting Card Show

A group of executives and officials of the U. S. Envelope Company and its various divisions attended the Annual Greeting Card Show held here last week at the Hotel Adelphia. They were C. A. Reynolds, head of the greeting card department of P. P. Kellogg & Co., Springfield, Mass.; Fred Williams, manager of the Linweave department; E. L. Wood, manager of the Kellogg Division of the U. S. Envelope Company; and Thomas M. Fairbanks, head of the Thomas M. Fairbanks Company branch, New York. The greeting card show is held annually at the Adelphia Hotel.

Hoberg Paper & Fibre Co. Executive Here

Robert Samson, manager of the Eastern District office of the Hoberg Paper Company, Green Bay, Wisconsin, with headquarters in New York, called on the officials of the D. L. Ward Company, exclusive distributors of the Hoberg line in the Philadelphia trade.

New Lines For Hampden Glazed

The Hampden Glazed Paper and Card Company, with offices in the Bourse under management of J. A. Stuckey, is placing on the market a new series of glazed chintz opaque velvet prints, and glazed multi-color chintz adapted for fancy box tops.

Post Office Asks Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1932.—The Post Office Department will receive bids on May 24 for its annual supply of paper for the fiscal year beginning July 1 as follows:

600,000 sheets 38 x 8 white and colored sulphite bond paper.
156,000 pounds 17 x 22 flat No. 40 white sulphite bond paper.
5,400 pounds 17 x 22 flat, No. 40 colored sulphite bond paper.
271,000 pounds various sizes flat white book paper.
158,000 pounds various sizes white chemical wood mimeograph paper.
28,000 pounds, 50 per cent rag white manifold paper.
2,000 rolls 2 5/16 adding machine paper.
537,000 pounds 29 x 35 wood manila label paper.
17,000 pounds same in rolls.
755,000 pounds various sizes standard news print paper.
164,000 pounds various sizes kraft wrapping paper.
5,500 pounds colored wood bristol cardboard.
82,000 sheets white railroad board.
5,000 sheets colored railroad board.
55,000 sheets 8 ply white railroad board.
6,000 sheets 8 ply colored railroad board.
1,000 pounds flat manila cardboard.
450,000 manila tags.
150,000 manila tags.
700,000 parcel post tags.
200,000 manila tags.
7,300,000 customs declaration tags.
1,500,000 despatch note tags.
18,000,000 C.O.D. parcel post tags.
2,500,000 manila tags.
720,000,000 plain facing slips.

International Earnings $500,000

BOSTON, Mass., April 27, 1932—President A. R. Graustein, of the International Paper and Power Company, told shareholders at the annual meeting here today that 1931 earnings available for dividends after interest, depreciation, etc., were approximately $500,000, as compared with $4,000,000 in 1930. This shrinkage, he said, was due in large part to heavy year-end adjustments, mainly the results of adverse business conditions. He said that during 1931 the company had to absorb about $8,000,000 in price declines in paper and pulp, its principal products, but that these losses were largely offset by increased efficiency and lower costs at the mills.

"As to the general outlook," Mr. Graustein continued, "we are continuing to reduce our costs and that process can be counted on to continue throughout the year. Earnings of the system as a whole for the first quarter will very probably be slightly in the red; that is, after paying all interest charges and all dividends on subsidiary companies' shares the consolidated balance will be not quite adequate to meet the depreciation charges which we are making. For improvement we look to two factors: first, continuance of operating efficiency and lower costs; and second, a change in business conditions."

Asked by a shareholder as to the prospects of preferred dividend resumption in two or three years, Mr. Graustein replied that he saw no hope of it this year, and that two or three years is a long time to look ahead, especially with conditions as they are today.

"However," he added, "if conditions should get better—business and financial—I think we can look forward to increasing earnings, also to ability to finance so that we can discharge our bank debt and then we can expect dividends on the preferred stock."

He said that the preferred dividend was passed with the greatest reluctance, saying that if he had the only vote on the question one more dividend would have been paid but it would have been a mistake.

Another shareholder wished to know whether, given a continuance of present conditions for another year or so, the paper company might find itself in financial difficulties. To this President Graustein replied that its estimated cash earnings this year will be sufficient to meet all interest and sinking fund charges and leave a balance of $3,000,000 or $4,000,000 available for the reduction of bank debts. This figure is before depreciation, but it is assumed that the sinking fund charges being heavy offset depreciation.

The president was unable to speak very confidently on news print prices. Here and there, he said, paper has been offered at lower prices particularly for foreigners, but foreign paper has not been accepted very widely. Domestic price remains firm.

Due to the fact that the detailed annual report for 1931 has not yet been issued it was voted to adjourn the meeting to June 8, at which time the complete statement will be presented.

Swedish Pulp Market Weak

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1932.—Swedish pulp and paper markets continue weak, according to latest trade reports. Orders for the past few weeks have been small, and a number of buyers have been requesting to have the filling of their orders postponed. The effect of the dissolution of the ground wood cartel on ground wood prices is being watched with interest.

Mergers Discussed At St. Lawrence Meeting

President Rossiter States Discussions Are Taking Place, Although Nothing Definite Has Been Done—Maclaren Power & Paper Reports Consolidated Profits From Operation of $746,273—Production Costs Compare Favorably With Best Units

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., May 2, 1932.—At the annual meeting of the St. Lawrence Corporation, the directors were questioned on the subject of news print mergers and Ernest Rossiter, president, stated that work along certain lines had been going on and discussions taking place but nothing definite had been done. There has been a lot of talk of Price Bros. & Co. being taken over by International Paper or by the English Associates, but nothing has yet developed.

Another question raised at the St. Lawrence meeting was why some companies with bond issues were able to pay their interest, but St. Lawrence, without any bonds could not do something in the way of dividends. Mr. Rossiter said the situations were different. There is a necessity for paying bond interest which is not apparent in the case of dividend on stocks and some companies may use money which comes out of inventories to maintain bond interest. He added that dividends could hardly be considered under present conditions in the industry. Average operation last year, he stated, was the lowest ever known in the news print business.

A. J. Nesbitt Resigns from Bathurst

At the annual meeting of the Bathurst Power and Paper Company, the resignation of A. J. Nesbitt from the board of directors and also from the presidency was announced. He is succeeded on the board by L. R. Wilson, managing director of Abitibi Power and Paper Company, while Brigadier-General J. B. White, of Canadian International Paper Company, becomes president, a position which he occupied before Mr. Nesbitt took over.

Maclaren Report Shows Progress

The report of the Maclaren Power and Paper Company, Ltd., for the twelve months ended November 30 shows consolidated profits from operations at $746,273. After deduction of depreciation, depletion and other reserves amounting to $178,684 and the deduction of $458,333 for bond interest of Maclaren-Quebec Power Company (the balance of interest on first mortgage bonds amounting to $74,933 having been capitalized as interest during construction) there remained $109,255, which, added to consolidated earned surplus as at November 30th, 1930, increased that amount to $783,723, from which a dividend of $175,000 was paid on the common stock of Maclaren Power and Paper Company during the year, leaving a balance carried forward in consolidated earned surplus amounting to $608,723.

The balance sheet indicates fixed assets, less depreciation and depletion, of $34,767,503. Current assets amounted to $2,120,572, while current liabilities amounted to $3,019,410, but in this amount is included approximately $1,600,000 special construction bank loan. Cash in escrow for bond interest and construction lien stood at $1,217,436, while other assets consisting of deposits, investments and deferred charges, amounted to $187,219.

In spite of the difficult operating conditions during the past year in the news print industry and the additional problems which inevitably attend the first year of operation of a new mill, the James Maclaren Company showed a satisfactory profit. The president states that operating costs compared favorably with the best units in the news print industry.

The report states that excellent progress is being made in the construction work on the Masson power plant of Maclaren-Quebec Power Company, which plant will have an aggregate capacity of 130,000 e.h.p. which will bring the total development of the company's plant (on completion of the remaining unit at High Falls) up to 245,000 e.h.p.

Pulp and Paper Exports

The Dominion Bureau of Statistics reports that the total exports of pulp and paper from Canada in March was $10,769,282, as against $8,938,366 in February and $14,906,275 in March of 1931. News print exports reached $8,520,812, which compares with $7,191,649 in the previous month and $11,639,039 in March, 1931. Pulp exports of $2,248,470 are shown as against $1,746,717 in February and $3,267,236 in March of last year.

The United States took a total of $7,145,813 in news print and $1,817,647 in pulp, making a grand total of $8,963,460. The United Kingdom took $395,538 in paper and pulp while the balance of $1,410,284 went to various other countries.

The total of pulp and paper exports for the first three months of the current calendar year now stands at $30,494,925. This figure compares with $37,330,773 in the corresponding period of last year.

Fancy Paper Market in Australia

Reporting on the fancy wrapping paper market in Australia, D. H. Ross, Canadian Trade Commissioner at Melbourne, writes:

"The Australian requirements for fancy papers are filled very largely by German and other continental manufacturers; they are able to supply excellent designs on paper of inferior quality which they can sell at low prices. The English papers are of excellent quality, but the prices are comparatively high and the continental mills can usually undersell them irrespective of quality. Australian paper manufacturers are able to supply a very good grade of fancy paper, but designs are limited and the price rather high.

"The usual size of sheets is 20 inches by 30 inches, 480 or 500 sheets to the ream. Box-making machines usually require the fancy paper in rolls.

"Prices vary according to quality and design, and there is such a wide variation that there is no point in quoting a number of prices. It is of interest to note, however, that one range of German samples of quite attractive designs was quoted at from 12s. 6d. per ream upwards—a ream consisting of 480 sheets, size 20 inches by 30 inches—f.o.b. Hamburg (16 marks to the pound sterling); any variation in exchange for buyer's account.

"Australian manufacturers are able to supply a good quality paper of attractive design suitable for covering expensive books at about £4 10s. ($21.90) per ream of 500 sheets.

Wallpaper That Heats Rooms

Wallpaper that heats a room has been tested aboard the steamship *Duchess of Richmond*, of the Canadian Pacific

Steamships, Ltd., which was in port at Montreal during the week. It was introduced during the last West Indies cruise of the liner, being placed in three of her staterooms. This heating apparatus, which is a new British invention, is stuck on the ceiling like ordinary wallpaper. It consists of a thin sheet of insulating material, through which are forced special elements. These are connected with the electric circuit of the ship, and emit dull rays at low temperature, the coils radiating warmth to the room until the temperature reaches the desired level. The current supply is then cut off by thermostatic control. An equable temperature is maintained, varying no more than two degrees. Both the Board of Trade and Lloyd's have approved the use of this new heating system on board ship.

Confer on Wage Agreement

WATERTOWN, N. Y., May 2, 1932.—A conference relative to new wage and working agreements was held here last week between officials of the St. Regis Paper Company and representatives of the International Brotherhood of Papermakers. Delegates from the unions of the mills at Carthage, Norwood, Waddington, Harrisville, Raymondville, Norfolk and Deferiet were present for the discussion. The St. Regis concern was represented by C. R. McMillan. Carl B. Martin and Thomas A. Wark.

It was learned that a wage cut has been decided upon but the amount was not indicated. A ten per cent reduction is said to have been proposed by the paper company and it was announced by officials that several propositions had been submitted. A counter proposal is understood to have been made by the unions but terms were not disclosed. Proceedings were conducted in an amicable manner and it is said that the unions are willing to take a revision.

Another conference is scheduled about May 15 at which the terms will be settled. The problem was set aside until that time in order to allow the delegates opportunity to carry on further discussion with employees in the various mills. The unions are said to realize that conditions are not favorable for the maintenance of the existing agreement. The present contract runs from year to year and any changes desired must be preceded by a notice one month before it expires. Union officials received a written notification a few weeks ago. The exact number of employees to be affected was not stated although it is known that the company employs in the neighborhood of 3,000 men when running on normal basis.

Boston Paper Market Irregular

BOSTON, Mass., May 2, 1932—The volume of business in the paper industry here continues at about the same level, hardly better than fair, although with some, business was better the latter part of April. The trade is hopeful, however, and working constructively to meet the present situation as far as possible, particularly in view of the uncertainty in regard to legislation at Washington and with the Presidential election ahead. Printers continue to make inquiries and to place a certain amount of business in connection with preparation of material for advertising campaigns of their customers. Fine writing paper is in fair demand and book and ledger papers are moving in average quantities. In some quarters the call for wrapping paper was less towards the end of April. While the kraft market has been quiet, the trade is looking forward to an improvement. Specialty lines are fairly active. The box board market reflects the call for cartons, which has fallen off somewhat of late. Demand for paper stock remains restricted. Values of paper stock are unquotably changed.

Mead Corp. Re-Elects Officers

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 2, 1932—Directors of the Mead Corporation were re-elected at the annual meeting held in this city during the past week by the stockholders.

Following the election, the directors met and re-elected the same officers for the coming year as have been serving in their respective capacities.

The officers of the company are George H. Mead, president; H. P. Carruth, executive vice-president; R. T. Houk, vice-president; Sydney Ferguson, vice-president; C. R. Van de Carr, Jr., vice-president; Speed Warren, treasurer; and Alan G. Goldsmith, secretary.

The directors chosen were H. P. Carruth, Sydney Ferguson, Charles F. Kettering, Edward H. Reynolds, Nelson S. Talbott, R. G. Corwin, E. T. Gardner, George H. Mead, N. W. Strobridge, Edward T. Gardner, C. R. Van de Carr, Jr., Edward A. Deeds, R. T. Houk, John A. Poland, H. E. Talbott, Jr. and A. L. Withers.

It will be noted that some of the most prominent industrialists in this section of the country are on the directorate. Mr. Reynolds is at the head of the Reynolds & Reynolds Company; Mr. Gardner, of the Gardner-Harvey Company, Middletown; Colonel Deeds, New York and Dayton capitalist and chairman of the board of the National Cash Register Company; and Mr. Kettering is recognized as a leading American inventor and General Motors executive.

President Mead submitted a report to the stockholders, showing operations during the past year have produced consolidated net earnings of $439,836.52, after depreciation, which has been charged upon the same basis as the year preceding, being an amount somewhat over one million dollars.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1932.—The Government Printing Office has received the following bids for 4,000 pounds of gummed kraft paper: Lindemeyr Paper Company, at 8.1 cents per pound; Reese & Reese, Inc., 11.97 cents; R. P. Andrews Paper Company, 6.85 cents and 8.62 cents; Mathers-Lamm Paper Company, 8.55 cents and 6.875 cents; Old Dominion Paper Company, 8.39 cents; Walker Goulard Plehn Company, Inc., 8.5 cents; Charles G. Stott & Company, 6.56 cents; and Brown-Bridge Mills, Inc., 9 cents.

The Mathers-Lamm Paper Company has been awarded the contract for furnishing the Government Printing Office with 40,000 pounds (40,000 sheets) of 26 x 38—No. 50 strawboard at 1.9345 cents per pound, bids for which were received on April 13.

The R. P. Andrews Paper Company will furnish 6,250 pounds (50,000 sheets) of 20 x 25—125, 50 per cent rag blue antique cover paper at 6.62 cents per pound, bids for which were received on April 15.

News Print Destroyed by Fire

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 2, 1932—Fire of undetermined origin in the basement of the *Dayton Daily News* office, Fourth and Ludlow streets, Wednesday afternoon, caused a loss of several thousand dollars to news print paper rolls, stored in that section of the building. The loss was confined to paper rolls supplied by a Dayton manufacturing company from its American and Canadian mills and is covered by insurance.

Ontario Paper Manufacturers Fairly Active

Some Fine Paper Mills Running Close to Capacity Under Gradually Increasing Demand—Various Grades of Bonds, Writings and Ledgers In Moderate Request — Coated Paper Plants Register Slight Improvement—Coarse Paper Market Quiet

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., May 2, 1932—While sales volume in wholesale paper trade circles did not increase to any great extent during April a decidedly better feeling developed and there is an impression that business will pick up from now on. Some of the paper houses report very fair business during the month, particularly in the fine paper section, and while there is still a disposition on the part of the consuming public to be content with the cheaper grades of paper, this tendency is not so pronounced as it was. Some nice business is released by direct mail and catalog sponsors. On the other hand, the printing industry is not well employed, despite the fact that some of the larger plants report quite a nice volume of business. The fact remains, however, that none of the paper consuming sources are stocking paper and in the case of many of the job printing plants are not ordering stock until the jobs are well under way—and then they want it in a hurry. In these days of highly competitive business the worries of both the mills and the wholesalers are added to by the necessity of frequent machine changes and short runs.

Of the manufacturers of fine papers, those making book paper are perhaps the busiest. One of the largest mills in Ontario, with several plants, said that they were getting a lot of nice business and that it was well distributed from coast to coast, with some encouraging orders from the Canadian west. Although generally speaking the fine paper mills are less than seventy-five per cent employed, there are instances where mills have been running for weeks past at close to capacity under a gradually increasing demand for book, litho and offset papers. Manufacturers of bonds, writings and ledgers are only moderately busy, while on the other hand some of the coated paper mills have been experiencing a nice pick-up in business following some weeks of light orders. It would appear as if the coated paper market were about to stage a come-back. No branch of the paper converting trade is as good as it should be. Manufacturing stationers, envelope manufacturers and makers of similar lines have been running light for some months and the volume of business, except for the usual run of school and office supplies, is decidedly light. In the light weight paper market manufacturers of tissues, toilets and specialties have not increased their output materially during the past several months and trade with them is generally described as quiet. The box board industry is still suffering from over-expansion but it has improved its position somewhat during the past few weeks and the plants are slightly better employed than they were during the past winter.

The coarse paper market is quiet, with light sales of both wrapping and paper bags, while kraft paper manufacturers are still looking for more orders of size that should be coming their way now. Reflecting general business conditions paper bag sales are down and with the exception of flour sacks, which are holding up well, bags are not finding the market expected of them a few months ago. .

Much Pulpwood Destroyed by Fire

Detailed statistics prepared by the Hon. William Finlayson, Ontario Minister of Lands and Forests, dealing with forest fires in the province last year, reveal that there were 1,851 conflagrations, with an attendant laying waste of 138,287 acres of country, over 45,000 acres of which were timber and pulpwood, 21,603 acres cut over, 27,659 acres young growth, and 44,019 acres barren land and grass. In the previous year, 1930, there were 450 fewer fires, but a total acreage loss of 711,809, including 399,583 acres of timber. In 1923, the record bad year in the history of the department, in so far as the fire loss is concerned, 2,120,148 acres of country—593,569 acres of which were timber—were laid waste by about 1,340 fires. The lightest year was experienced in 1928, when only 536 fires were reported with only 950 acres of timber being destroyed. From 1917 to 1931, inclusive, the average number of fires a year has been 1,209, and the average acreage loss per year 463,135. The total area under the protection of the Lands and Forests department is 125,000,000 acres.

Smouldering debris, twisted and tangled rails were all that remained on April 24th to mark the spot where a pile of pulpwood, containing more than 9,000 cords, and estimated in value at $125,000 was consumed by fire at the Hydro-Electric Commission pulp mill at Campbellford, Ont. The fire brigade of Peterborough fought the flames and they were able to prevent the fire spreading to the rosser house and mills adjoining. The combined fire fighters on the scene operating from both river and canal saved much valuable property and several thousand cords of pulpwood. One house that had been used as employees' quarters was also destroyed. There were two fires, one starting on the Friday and the other breaking out on Saturday. Officials estimate that between the two blazes 14,000 cords of pulpwood were consumed. The stack of wood covered an area of two acres and was piled 75 feet high. The mill employs about forty hands.

Thunder Bay Mill to Reopen

Mayor Frank Ibetson, of Port Arthur, and Thomas Falls, chairman of the Public Utilities Commission of that city, have been in Toronto for some days in conference with the Hydro-Electric Power Commission and the Abitibi Power and Paper Company. The object of the delegation was to secure assurance that the paper company would reopen their Thunder Bay mill and this seems to have been attained. The Mayor took word back to Port Arthur that he was given to understand by the Abitibi people that they would recommence operations in the mill early in May. The plant has been closed for nearly two years. It has a capacity of 250 tons of news print per day.

Notes and Jottings of the Trade

C. W. Illiff, of John Dickinson & Co., Ltd., England, was a recent caller on a section of the Toronto paper trade.

The sympathy of many in the Ontario pulp and paper trade was extended a few days ago to J. H. Black, formerly head of the Spruce Falls Power and Paper Company, in the death of his mother, Mrs. D. Robertson, who passed away in Toronto.

W. P. Bennett & Son, Ltd., Foy Building, Front street, Toronto, have taken on the Canadian agency for the District of Columbia Paper Manufacturing Company, manufacturers of paper box coverings.

Choose a *Perfected* Machine

The Bird Centrifiner is not an experiment. It is not an untried device, fresh from the drawing board. Its installation is not a matter of "let's try it and see whether it will work."

The Bird Centrifiner is a *perfected* machine. It is based on principles that have been proved sound by three years of spectacular operation, on every class of paper stock that should be clean. Mills have installed hundreds of thousands of dollars worth of Bird Centrifiners—*and paid for them*, as the most profitable investment they could find.

The Bird Centrifiner, manufactured under license from Centrifugal Engineering and Patents Corporation, owners of the Erkenator patents.

Let us put in your hands the performance records of these *proved* and *perfected* Bird Centrifiners.

BIRD MACHINE COMPANY
South Walpole, Massachusetts

BIRD CENTRIFINERS

5380

Chicago Paper Market Conditions Little Changed

Demand for Various Standard Grades of Fine Paper Irregular — Sulphite Bond Situation Continues Unsatisfactory—Bond and Cover Papers Easy—Kraft Wrapping Paper Holding Up Well—Outlook for News Print Paper Uncertain

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., April 30, 1932—Only a slight change in the Chicago paper market is noted this week over the previous seven days. Business continues uncertain and retail outlets are finding no appreciable upturn in spring demand. Reports indicate uneasiness over the sulphite bond market and the inability of this market to retain that measure of firmness hoped for following recent meetings in Chicago. The kraft market, however, continues to retain its improved position, although the jobbing outlets are having a rather difficult time scraping up the proper amount of business, according to reports circulated here.

Groundwood and news print representatives in the Chicago market fail to report any optimism over the immediate outlook. Mills, say reports, are running between 60 and 65 per cent and a spring revival of business designed to stimulate buying of advertising lineage—and resultant increase in consumption of news print has failed to appear. The fine grades, even aside from the sulphite bond situation, report a spotty condition characterized by small orders and unevenness of demand. Books and covers showed no improvement during the week, with reported indications of a weakening in the market trend itself. Waste papers showed little or no change as the month end reports came in.

Federal Reserve reports covering the paper and printing situation in this district show, in a rather illuminating way, the true condition of the industry in comparison with other lines. The 317 paper and printing firms reporting showed 40,721 wage earners and $1,052,000 in earnings as of March 15, 1932. There is a 2.7 per cent decrease in wage earners from February 15 and a 3.4 per cent decrease in earnings during the same period. For the ten groups of industries the change in wage earners showed a 2.1 per cent decline, as compared to 2.7 for the paper and printing industry and an 8.6 per cent decline in earnings—five per cent more than that experienced by the paper and printing industry.

Big News Print Cargo Arrives

The *Joliet*, one of the Chicago Tribune news print fleet, carried more than 6,300 tons of news print into the Chicago docks this week, reported to be the largest amount of news print ever carried in a single ship. The *Joliet*, according to H. A. Laird, traffic manager of the *Tribune*, carries five times as much as either the *Chicago* or *New York News*, ships of the *Tribune* fleet. It is 504 feet long and has a 54 foot beam. It draws 18 feet and 9 inches and came through only one lock, at Port Colbourne. It traveled about twelve miles an hour—reaching Chicago from Thorold, Canada, in seventy-five hours. The 6,300 tons of news print will, says Mr. Laird, last the *Tribune* exactly three weeks.

J. H. Coy Returns From Business Trip

J. H. Coy, Sr., returned on Monday of this week from a two weeks trip through the states of Indiana, Kentucky, Ohio, Michigan and Illinois. The motor trip was made largely for business purposes and is getting to be an annual event with the Flambeau representative in this territory. Mr. Coy reports little difference in conditions in other sections as compared with the Chicago area. Business is slow, orders small and the retail outlets considerably bogged down by little or no interest. Jim is convinced, however, that the power is still there once "Something or other" starts the ball to rolling.

Middle West Salesmen's Activities

The Middle West Division of the Salesmen's Association of the Paper Industry will officially open its 1932 monthly golf tournament season at the Wilmette Country Club on Friday, May 20. Courtney Reeves, of the Allied Paper Mills, hard working chairman of the golf committee, is anxious to have anyone, anywhere—likely to be interested in the event—to get in touch with him immediately. Mr. Reeves holds forth at 400 West Madison street, Chicago. Meanwhile, the salesmen are continuing their round table discussions at weekly luncheon meetings held at the Hamilton Club.

Paper Merchants Discuss Competition

The Chicago Paper Association held its regular meeting on Tuesday evening, April 26, the entire program being taken up by a discussion on competition and competitive methods. It is reported that the association has definitely decided to divide at least the specific discussions of both the retail and industrial groups, leaving the general discussions for joint get-togethers. This program may be formally adopted at the next meeting of the association early in May.

News of the Trade

H. S. Adler, secretary of the Paperboard Industries Association, reports an unusual amount of interest in the May meeting of that association scheduled for the French Lick Springs Hotel, French Lick Springs, Indiana, May 17, 18 and 19. A large delegation is expected to represent the Chicago area.

A new moulded pulp container has been developed by the Owens-Illinois Glass Company. The new material, "Pulpack," is moulded to fit from woodpulp and protects glass goods from breakage without cases or corrugated dividers. It is also said to provide insulation.

Awards for excellence in the sixth annual exhibition of Chicago Fine Printing, sponsored by the Society of Typographic Arts, were announced recently, with the package design award going to the Gummed Products Company, with its design, "Play Tape."

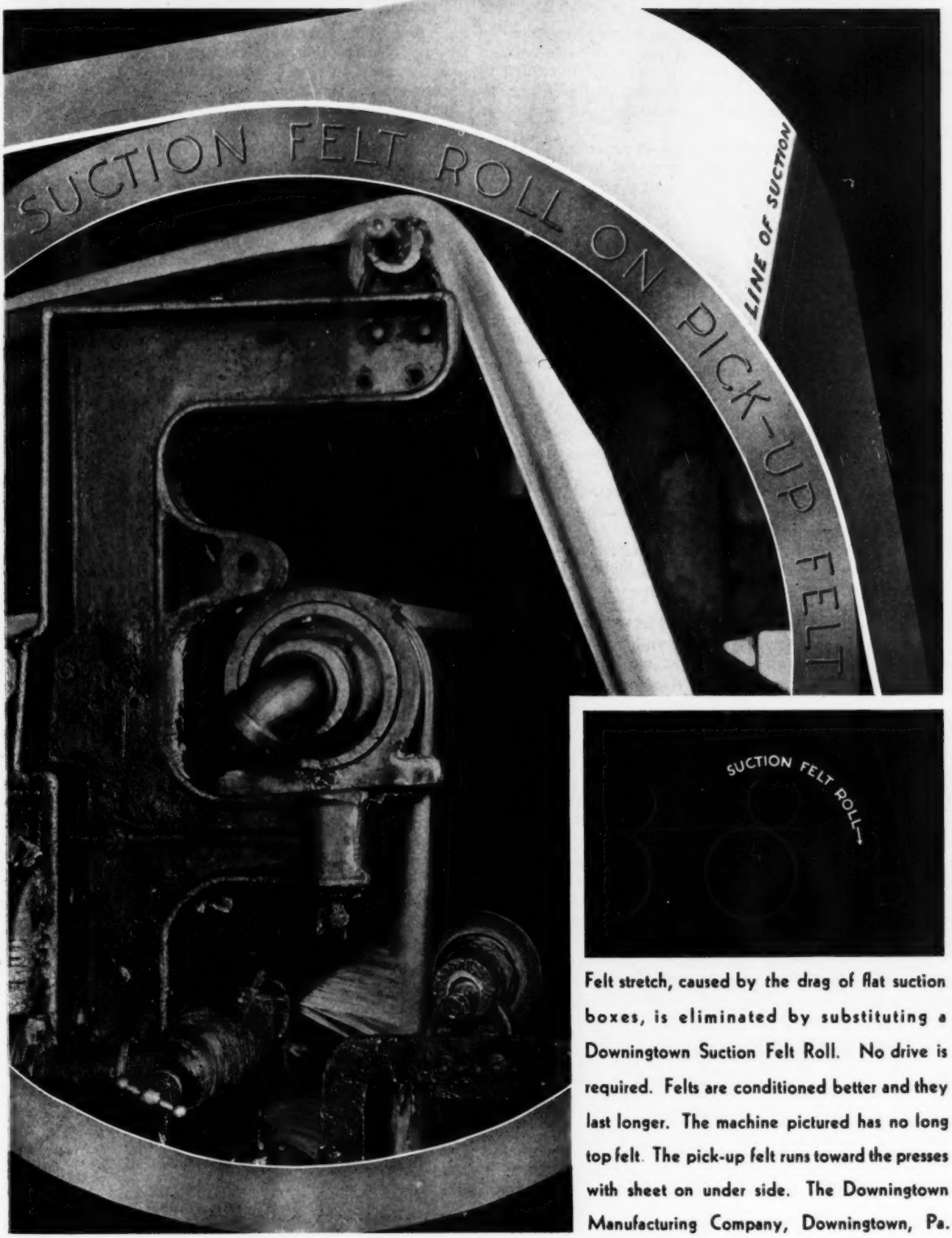
Big Pulpwood Pile Burns at Detroit

DETROIT, Mich., April 29, 1932—Fire which has burned for more than 45 hours in a block-long pile of logs in the yard of the Detroit Sulphite Pulp and Paper Company, 9125 Jefferson avenue west, was under control today, although firemen expect the blaze to smolder for several days.

Work continued as usual in the plant, although dense clouds of smoke were being blown across the southern end of the factory. As a precautionary measure, streams of water were being played on roofs of buildings near the fire.

Large crowds of spectators from all parts of Detroit and vicinity have attended the fire during the two days it has burned in the 21,000 cords of wood valued at thousands of dollars.

DOWNINGTOWN



Felt stretch, caused by the drag of flat suction boxes, is eliminated by substituting a Downingtown Suction Felt Roll. No drive is required. Felts are conditioned better and they last longer. The machine pictured has no long top felt. The pick-up felt runs toward the presses with sheet on under side. The Downingtown Manufacturing Company, Downingtown, Pa.

"Grinding Sense" As Acquired by the Stone Sharpener

By Bernard Bornstein

Pulp grinding is not defined as an exact science partly perhaps because of the absence of precision tools used in burring, and yet a high degree of accuracy in regard to circumferential truth and proper cutting surface is essential to the most efficient production of pulp of acceptable quality.

In direct contrast to other types of grinding, such as with iron and steel, the material removed in the grinding of wood is the desired product, and also while wood is constantly changing in size, quality and species under varying grinding pressures, iron or steel is usually considered a known quantity so that identical results can usually be obtained with the use of similar methods and duplicate grinding wheels. Compare this with a constantly changing quality of wood, along with varying unit pressures and it can be easily seen that a difficult situation arises, and the manipulation of a pulpstone so as to grind a suitable grade of pulp surely comes under the heading of art.

Art is definied as "skill in performance acquired by experience, study or observation" and "systematic application of knowledge and skill in effecting a desired result." Of these three qualities, skill undoubtedly plays the major part in "Grinding Sense."

The Norton Company has been interested for many years in the art of grinding and has gradually placed most types of grinding on a reasonably scientific or precision basis. With the introduction of its artificial pulpstone, it has become possible to apply better methods of operation and to employ to best advantage, an improved type of stone sharpener. This has never been possible before because of varying quality and types of stones over which a great deal of uncertainty existed and, in most cases, hit or miss methods of operation were used.

No "Sixth Sense" Necessary

It is sometimes supposed that the best stone sharpener develops a special sense in addition to the five he should be endowed with, and possesses that indefinable "it" that produces results. However, the best type of sharpener is undoubtedly one whose grinding sense has been highly developed, which is accomplished by not only applying systematically his skill, knowledge and experience, but also by the use of *intelligence* to a greater degree. This man not only takes pleasure in overcoming difficulties, but also observes closely the entrance of different kinds and conditions of wood which tend to throw the pulp off the quality standard.

Smell

The sense of smell is not ordinarily considered as having a part in the art of pulp grinding, but it is a fact that any experienced sharpener can vouch for that hot dry odor which indicates the surface of the stone is dulling and needs attention. He can also tell by the familiar odor contained in the steam arising from the rear of the grinder; variations in the quality of the wood all having their effect on this odor and being noticeable immediately.

Sight

Sight is a very important factor. Both the quality of the pulp and its freeness can be determined approximately by the color of the pulp leaving the grinder. The density of the pulp is closely observed—first, to keep the pulp from getting too thick, which has a tendency to increase the freeness and produce more waste or coarse fibers; and second, to prevent the consistency from getting too thin because of the likelihood of slowing up the pulp, and shortening the fiber length.

The rate of travel of the burr is closely observed and the surface of the stone watched to prevent shims from dropping between the burr and stone. There are so many details governing the grinding of pulp and so many things to go wrong, that an *unobservant* man has no place in a grinding room.

Hearing

The sense of hearing is one that should be highly developed as it is something the majority of operators do not take seriously enough. This sense is not provided for the sole purpose of listening to a stone "blow up," but together with the other senses, must be employed so as to prevent such an occurrence.

The sound of the burr travelling across the stone at the correct speed and pressure against a stone having a good surface, has a characteristic hum which should be a guide for all good stone sharpeners. Hearing affords a check on the other senses and may be considered as a safeguard. By putting the ear close to a cylinder or magazine, the condition of a stone can be checked, but of course must be coordinated with the all-important sense of feeling.

Touch

The skill of a stone sharpener depends principally on his delicate touch. This sense can be most efficiently developed if the burring carriages are kept in good shape. It is correspondingly easier to burr a pocket grinder than a hydraulic magazine grinder where the burring apparatus is so much heavier and lacks sensitivity, but both types of grinders are expected to produce good grades of pulp and it is a challenge to the sharpener. Bearing in mind that the quality of the pulp is greatly influenced by the condition of the surface of the stone, there is no factor that exerts its influence in this respect as much as the sense of touch.

"Grinding Sense" can be defined as "The intelligent application of the natural senses and abilities to the most efficient operation of a grinder."

* Adapted from an article applying to cylindrical grinding appearing in December 1931 issue of "Grits and Grinds," published by Norton Company, Worcester, Mass.

Gears and Forgings Operating as Usual

Gears and Forgings, Inc., although in the hands of receivers are operating as usual. This is contrary to rumors that operations had been discontinued.

This is a friendly receivership proceeding and the receivers are operating the company's business under the direction and order of the court that the company may be continued and the best interests of Gears and Forgings, Inc., and its customers be conserved.

All work is being carried forward in the usual careful manner and by the same workmen as before. The business will be conducted as heretofore pending a reorganization of the company's financial structure.

★

Over Mountain Trails on Burros' Backs — —

to conquer

A NEW COUNTRY

for American Projects

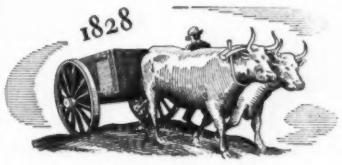
Part by part . . . strapped to burros' backs . . . over the mountain trails of South America went the first American built paper machine . . . a tribute to Smith & Winchester engineering. Every part of the machine required a new design to meet this mode of travel.

And 1932—nearly a century later—finds mill men with special requirements in paper machine design still calling on Smith & Winchester engineers to work with them on their problems.

Paper makers who want truly fine *paper machines*, *cutters*, and *paper bag machines* come to South Windham. Here they have the services of a complete organization . . . experienced engineers . . . the latest production machines . . . craftsmen, skilled in the building of paper mill machinery.

Talk over your next job with a Smith & Winchester engineer—no obligation.

MAKERS: *Fourdriniers, cylinder and wet machines; paper bag machines; undercut trimmers; Rainstorm shower pipes; slitters and calenders; reels and winders; rolls (bronze and wood); Jordans and Jordan fillings; stuff and fan pumps; castings from our own or customers' patterns.*



BUILDERS OF THE FIRST AMERICAN PAPER MACHINE FOR SOUTH AMERICA

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The SMITH & WINCHESTER
Manufacturing Company

PLANT AND OFFICES AT SOUTH WINDHAM, CONNECTICUT

369

Obituary

Charles D. Bingham

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., May 2, 1932.—Charles D. Bingham, for many years prominently identified with the Bagley & Sewall Company, died this week at his home from illness caused by his advanced age. He was 86 years old. He had been seriously ill since early in the winter and very little hope was held for his recovery from the start.

His career with the Bagley & Sewall Company started in 1887 when he obtained the position as bookkeeper. Promotion followed and he was made general office manager. In 1892 soon after the death of Edmund Q. Sewall he was made secretary of the company, which position he filled for several years. In 1897 he was chosen treasurer and remained in that capacity until early last year when he announced his retirement. However, he retained his connections with the company by serving as general consultant since that time.

During his connections the company developed rapidly and the manufacture of paper making equipment became its chief business. The inventive genius of Mr. Bingham was demonstrated on many occasions and a number of devices used by the concern were perfected by him.

He was also prominent in political circles and served a term as Mayor of the city. He was also prominently identified with numerous fraternal organizations.

John Howard Burke

PHILADELPHIA, Pa., May 2, 1932—John Howard Burke, former superintendent of the Diamond State Fibre Company, Bridgeport, Pa., passed away last Tuesday at the Bryn Mawr Hospital following a year's illness from heart disease. He was a resident of West Conshohocken. He was 43 years of age and for many years was superintendent of the Bridgeport mills of the Diamond State Fibre Company, resigning from that position on the advice of the doctors a year ago. Interment was made in Leeds, Md., his birthplace.

I. D. Cohen

I. D. Cohen, aged 66, president of the Fairfield Paper Company, Baltimore, Ohio, director of the Dresden Paper Mills, Dresden, Ohio, and director of the Peoples Bank and Trust Company of Coshocton, Ohio, died at his home in Coshocton April 21, as a result of internal injuries received in an automobile accident. Funeral was held at Cleveland, Ohio, Friday, April 22. He had been actively affiliated with the Fairfield Paper Company for the past fifteen years and had a host of friends in the industry.

Chauncey W. Gay

SPRINGFIELD, Mass., May 2, 1932—Chauncey W. Gay, 79, inventor of a linen cloth finish paper machine and box lining and printing machinery, died April 25. Mr. Gay was widely known in the paper industry. Five children are living.

New Hercules Liquid Resin

WILMINGTON, Del., April 11, 1932.—Development of a new liquid resin to be known under the name of Abalyn is announced by the Naval Stores Department of the Hercules Powder Company.

The new product is a resinous plasticizer for nitrocellulose lacquers and other products. The properties of Abalyn indicate that it will find a wide application in the manufacture of such products as clear interior lacquers for metal and wood, alkali-proof lacquers, leather lacquers, coatings for fabric and paper, non-drying inks, rubber cements, adhesives, waterproofing compositions, transparent paper and similar products.

The new liquid resin, which was developed at the Hercules Research and Experimental Laboratories, has already been given many practical field tests and will be marketed from the Wilmington office of the Hercules Powder Company.

Abalyn is a pale yellow viscous resin that has a solvent action on nitrocellulose in the presence of alcohol. It has in addition, according to reports from the Hercules Naval Stores Department, the following properties:

It is not appreciably affected by alkalies or weak acids and does not hydrolyze with boiling water.

It has a faint, mild and ester-like odor.

It is compatible with all the normal non-volatile and volatile ingredients of nitrocellulose lacquers.

It is insoluble in water and is an excellent waterproofing and impregnating agent.

It is a substantially non-drying product although it oxidizes very slowly to a pale yellow resin.

It has a solvent action on practically all natural and synthetic resins, rubber, and drying oils.

It is not corrosive and does not liver with basic pigments.

R. J. C. Handford, woodlands manager and purchasing agent of the Howard Smith Paper Mills, Montreal, and associated companies, has resigned to take up the position of general manager for Revillon Freres Trading Company, Ltd., with headquarters in Winnipeg. E. J. Thom has been promoted to the position of purchasing agent. He came to the Howard Smith organization from the Riordon Company in 1920 and spent seven years at the Beauharnois plant. During the past five years Mr. Thom has been in charge of the pulp sales department of the company, including the Canada Paper Company and the Canadian Cellulose Company, with headquarters in Montreal. He will continue to handle the pulp sales.

Fire Damages Leshner Plant

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 2, 1932—A fire that continued during the greater part of last Wednesday afternoon and night caused a loss estimated at more than $100,000, at the plant of the Leshner Paper Stock Company, Millville and Edgewood avenues, Hamilton, Ohio. The building was filled with camel's hair, felt, baled rags and moccasins and boots from Russia. These materials are used in the manufacture of felt and are handled by the Hamilton concern. The boots and moccasins were purchased in Russia, it was reported, and were recently shipped to Hamilton for storage.

Fred W. Lotz Entertains Restaurateurs

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 2, 1932—Dayton and Miami Valley owners of restaurants to the number of sixty, assembled Friday night at the Miami Hotel to enjoy a get-together of the Dayton Restaurant Association. Fred W. Lotz of the paper concern bearing his name, was the host of the occasion and extended royal entertainment.

Despite the depression, the restaurants of this city seem to be doing a thriving business, chiefly because they have reduced prices. New business has resulted in a demand for paper and paper products.

Sources of Waste That Still Exist

Mills are preparing to be on a better footing for the inevitable return to normal market conditions. Efficiency and economy will characterize operations during 1932.

In spite of their aggressive plans to insure lower production costs through modernization of machines, many mills will continue to be heavily handicapped by burdensome operating cost due to neglected sources of waste.

In the machine room—wasted heat units carried out in vapor—heat units that should be reclaimed and utilized to economize on steam. On the machines—waste and spoilage resulting from damage to felts, retarded drying, low capacity and high steam pressure, cockling and wet streaks; all of which can be avoided by proper absorption of vapor.

In the grinder room—waste of time and money for repairs to damaged machinery and slowing up of working schedules—all due to thick steaming fog that should be cleared from the room.

These and similar atmospheric difficulties are at the root of major operating problems throughout your processing. There is ROSS equipment especially designed to completely correct such conditions. Look to your heating and ventilating as the foundation for lower production costs. Our engineering staff is ready to assist you.

J. O. ROSS ENGINEERING CORPORATION

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ROSS ENGINEERING OF CANADA, LIMITED
NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS
HEATING—VENTILATING—DRYING

New York Trade Jottings

Arthur L. Dawe, of the St. Lawrence Sales Company, Ltd., Montreal, Que., was a New York visitor last week.

* * *

George McKee, Sr., of the Consolidated Paper Corporation, Montreal, Que., spent several days in New York last week.

* * *

The next annual convention of the American Paper and Pulp Association is scheduled to be held in the Hotel Pennsylvania, New York, from February 13 to 17, inclusive.

* * *

William Steck & Co., dealers in paper mill supplies, have removed from 15 Park Row to 38 Park Row, New York, where they are located in Rooms 504-505. The old telephone numbers have been retained, viz., Barclay 7-8976-7.

* * *

A. J. Pagel, president of Pagel, Horton & Co., wood pulp importers, of 347 Madison Avenue, New York, has been re-elected a vice-president of the Swedish Chamber of Commerce of the U. S. A.

* * *

Hjalmar Procope, managing director of the Finnish Papermills Association; Bertel Sjoberg, manager of the news print division of the association; and Erkki Ahlstrom, managing director of the Warkaus mills in Finland, all of whom are visiting the United States, were prominent New York visitors last week. They plan to sail from New York for Finland on May 12.

* * *

The Tissue Paper Manufacturers Association, with headquarters at 280 Madison Avenue, New York, representing a large number of roll tissue paper manufacturers of the United States, has filed a complaint with the Federal Trade Commission, complaining against the advertising practices of the Scott Paper Company, of Chester, Pa., alleging that the advertisements are misleading and inaccurate.

* * *

John Cornell, of the *Paper Mill,* was the guest speaker at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, held at Allerton House, New York, on Monday. Mr. Cornell analyzed the present economic situation in a concise manner. His address was greatly appreciated by those present and was followed by a spirited discussion, in which several of the members took part.

Cliff Paper Co. Closes Mill

The Cliff Paper Company, Niagara Falls, N. Y., closed down May 1, 1932, for an indefinite period, after forty-three years continuous manufacture of news print and other ground wood papers.

The Hon. Arthur C. Hastings, who has been a prominent figure in the paper industry for many years, incorporated the Cliff Paper Company in 1889 and has been the managing executive, without interruption, since the date of incorporation.

To Represent Slovak Mill

L. J. F. Nagode, 201 McGeah Building, 607 Webster Avenue, Pittsburgh, Pa., has been appointed to represent in the United States the Slovakische Papierfabrik A. G., Slovak Paper Mill, Inc., Ruzomberok, Czechoslovakia. This mill produces a variety of paper, especially sulphite, kraft, greaseproof, pergamyn, Havana and envelope paper.

Marathon Holds Bowling Contest

An innovation in recreation activities of paper mills was the bowling tournament held at Ashland, Wis., by teams from mills of the Marathon Paper Mills Company at Wausau, Rothschild, Menasha and Ashland. Five bowlers from the Menasha Carton Division chartered a Ryan Monoplane and made the trip to the far northwestern city in two hours. They then joined the others arriving by train and formed a parade. The bowlers were marched through the streets headed by a girls' band which met them at the depot in company with a reception committee headed by B. H. Metternich, manager of the Ashland mill. On arrival at a downtown hotel, they were serenaded by a boys' band. The visitors were then put aboard an old type street car and given a ride to the Ashland mill for an inspection tour. Torpedoes were placed on the tracks all the way out so as to furnish plenty of noise. Bowling was in progress for two trophies in the afternoon and evening, and the affair wound up with a dancing party at the Elks club. A banquet was held at 6 o'clock.

Superintendents Meet at Syracuse

[FROM OUR REGULAR CORRESPONDENT]

SYRACUSE, N. Y., May 2, 1932.—The annual meeting of the Northern New York branch of the American Pulp and Paper Mill Superintendents Association was held here during the week at which considerable discussion relative to pulp and paper mill operation took place. Frank A. Johnson, president, presided at the gathering. The opening session was devoted mainly to discussion about various new machines, chemical reactions due to temperatures and methods for making better ground wood.

Among the speakers at the afternoon session were Dr. James E. Campbell, president of the Dexter Sulphite Pulp and Paper Company, of Dexter; F. C. Farnsworth, president of the Farnsworth Supply Company, of Watertown; Joseph H. Wallace, of the Black-Clawson Company, of Hamilton, Ohio, and C. D. Demers, of Rochester. George W. Sisson, Jr., head of the Racquette River Paper Company, was the guest of honor and delivered the principal address at the banquet which concluded the program.

Proceedings Quashed in Union Bag Case

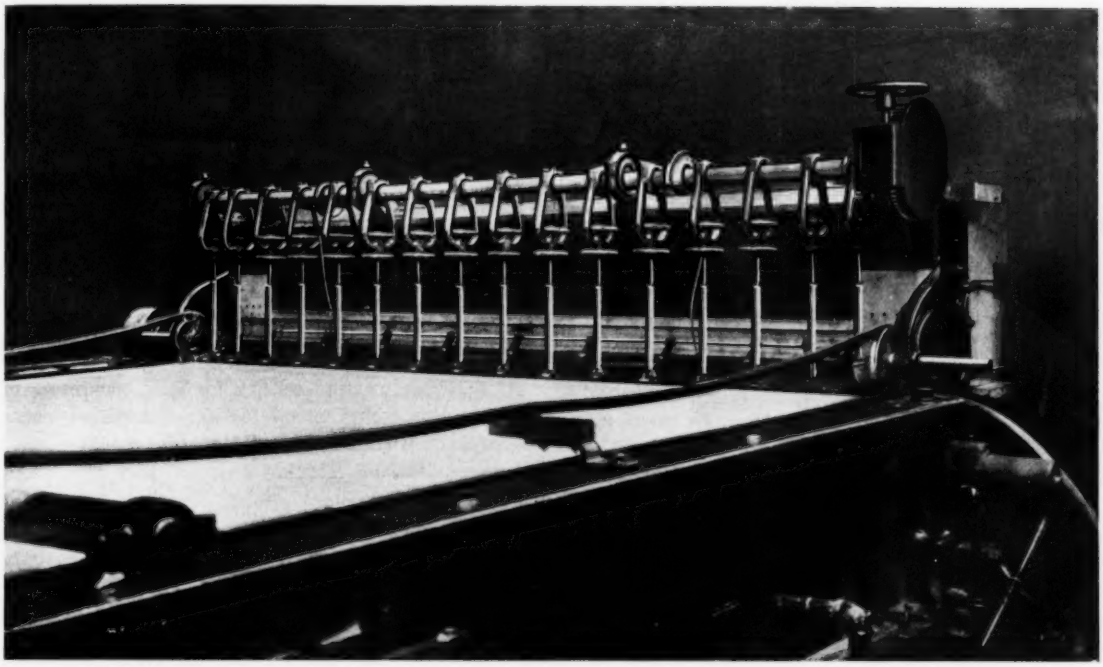
HUDSON FALLS, N. Y., May 2, 1932.—An order quashing proceedings in the writ of certiorari secured by the Union Bag and Paper Corporation against this village for a review of assessments on their property was signed this week by Supreme Court Justice Heffernan and later filed with the county clerk. At the opening term of court several days ago a motion for the signing of the order was made by attorneys for the village but representatives of the paper company objected on the ground that certain recitals were omitted. The court then demanded that the order be redrafted.

In the order filed this week it was stated that it was granted without costs to either party and without prejudice to any rights which the relators may have to renew its application for a writ of certiorari to review the assessments and further that the order was granted upon the disqualification of Justice Rogers, who presided at the court at which the writ was made. The paper company was represented by John E. Sawyer and Daniel F. Imrie.

To Investigate Casein

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 4, 1932.—The United States Tariff Commission has announced that it will hold a hearing in this city on June 9 in connection with its investigation of cost of production of casein.



• THE MARK OF THE TRUE EXECUTIVE •

The courage it takes to junk old ideas, methods or equipment in favor of newer ones that answer present day needs *is the mark of the true executive.*

Paper consumption is below normal. This is bound to cause under-capacity production in many mills.

The fact remains, however, mills *are* operating and the true executive is seeing to it that the newest methods and the most efficient equipment are being used in order to extract the greatest profit out of the time that *is operative.*

An important piece of equipment is your Inlet. Important factors of Quality and Cost are influenced here.

Check up! Compare the performance you are now getting with what the latest type Voith Inlet can give you. We'll be glad to send you all the facts you want on the Voith Inlet. Write the Valley Iron Works, Appleton, Wisconsin.

VALLEY
Equipment for Paper and Pulp Mills

Plant: Appleton, Wisconsin
New York Office: 350 Madison Ave.
Western Office: 1251 East 21st St., Portland, Ore.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

Beaters • Jordans • Voith and Van de Carr Stock Inlets • Pumps • Deckers
Screw Presses • Laboratory Equipment • Plug Valves • Stock Regulator

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CANADA'S PAPER INDUSTRY

The comparative importance and high standing of Canada's pulp and paper industry is brought out in an interesting manner in a report just issued by the Dominion Bureau of Statistics for the years 1929 and 1930.

While the Canadian pulp and paper industry undoubtedly feels the present economic crisis, the report says that it appears to be affected to a lesser degree than other groups depending on foreign markets for the sale of their products. The importance of the pulp and paper industry is indicated by the rank of news print paper and wood pulp among the first five principal items of export. There were decreases in all five items in 1930, but the value of news print paper and wood pulp exported declined only 10 per cent compared with a drop of 25 per cent in wheat, wheat flour and planks and boards.

Canada exports annually to the United States over a million cords of raw or unmanufactured pulpwood. This may constitute a theoretical economic loss but the industry as a whole shows a strong tendency toward the more profitable manufacture of raw materials within the country. In 1908, almost two-thirds of Canada's cut of pulpwood was exported to the United States in the raw or unmanufactured form, most of it being rough or unbarked. Today the proportion is less than one-fourth, of which 80 per cent has been peeled, barked or rossed before exportation.

In the addition of value to raw materials by further manufacture or net value, and also in gross value of production, the pulp and paper industry is the most important manufacturing industry in Canada. It also heads the lists in wage and salary distribution. It comes second in capital investment and total number of employees.

Canada now manufactures over 35 per cent of the world's supply of news print paper, exceeding in 1930 the production of the United States, our nearest competitor, by over 1,200,000 tons. Preliminary figures for 1931 show a lead of over 1,000,000 tons.

Canada's exports of this commodity are over eight times as great as those of Newfoundland, next in importance, and exceed the exports of the rest of the world combined. Our exports of news print are only exceeded in value by our exports of wheat.

In spite of adverse foreign tariffs and a comparatively restricted home market, the manufacture of fine papers and paper other than news print in Canada is developing and Canadian mills are now equipped to manufacture every variety of paper used in the country at the present time.

RESEARCH ON PERMANENCE OF PAPER

At a recent meeting of the advisory committee of the National Research Council for the Bureau of Standards Research on Preservation of Records, means of expanding the studies and carrying them on more advantageously were discussed. The National Research Council is administering grants by the Carnegie Corporation totalling so far $30,000, for assistance in the studies dealing particularly with library storage conditions. The other branch of work deals with the permanence properties of record papers and this is assisted by the Brown Company through the services of two research associates.

The information obtained has outlined quite definitely how current papers are likely to react to storage conditions, and what the optimum storage conditions are. The further research contemplated deals with the more difficult problems of finding means of improving the resistance of papers to deterioration, and of increasing the life of impermanent papers bearing important records.

It was unanimously agreed that consolidation of the entire outside support at this time within the National Research Council would be very desirable, and it was recommended that the Council endeavor to secure an additional fund of $10,000 annually, for a period of three years, to carry out this plan. Doctor Henry K. Benson, Chairman, Division of Chemistry and Chemical Technology, National Research Council, who is also chairman of the advisory committee, stated that his organization would proceed actively with solicitation of funds for the purpose, and would be pleased to have anyone interested communicate with them.

The other members of the advisory committee are as follows:

Miss Helen U. Kiely, chief chemist, American Writing Paper Company, Inc., Holyoke, Mass.

H. M. Lydenberg, assistant director, New York Public Library, New York, N. Y.

Doctor H. G. Knight, Chief, Bureau of Chemistry and Soils, Department of Agriculture, Washington, D. C.

W. D. Harper, president, W. D. Harper, Inc., New York, N. Y.

B. L. Wehmhoff, technical director, Government Printing Office, Washington, D. C.

R. E. Flynn, Union Guardian Trust Company, Detroit, Mich., chairman, Paper Standardization Committee of National Association of Purchasing Agents.

A. M. Chase, Dodd Mead & Co., New York, N. Y., representing National Association of Book Publishers.

M. Krimmel, Hammermill Paper Company, Erie, Pa.

G. A. Richter, director of paper research, Brown Company, Berlin, N. H.

TAPPI Fall Meeting in Holyoke

The executive committee of the Technical Association of the Pulp and Paper Industry met on April 25 and 26 at the Waldorf-Astoria Hotel in New York city. Those present included Allen Abrams, technical director of the Marathon Paper Mills, Rothschild, Wis.; C. C. Heritage, manager of the Maine Coated Paper Division of the Oxford Paper Company, Rumford, Maine; M. A. Krimmel, assistant director of the laboratories of the Hammermill Paper Company; Grellet Collins, manager of the Continental Division of the International Paper Company; Joseph H. Slater, manager of the Escanaba Paper Company, Escanaba, Mich.; Ralph A. Hayward, vice president of the Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich.; W. O. Johnson, manager of the Woronoco, Massachusetts mill of the Strathmore Paper Company: W. S. Kidd, production manager of the E. B. Eddy Company Ltd., Hull, P. Q.; and R. G. Macdonald, secretary of TAPPI, New York, N. Y.

It was decided to accept the invitation of the association members of the Connecticut Valley to hold the fall meeting in Holyoke on September 14, 15, and 16, 1932. The Technical Association has not met in this city since 1917.

TAPPI Notes

W. L. Vignes, formerly chief chemist of the Moss Point mill of the Southern Kraft Corporation is now chemist at the Elizabeth, La., mill of the Calcasieu Sulphate Paper Company.

E. H. Niederauer, formerly technical director of the Sylva Paperboard Company, Sylva, N. C., is now at the Kingsport mill of the Mead Corporation.

R. H. Stagemyer of the Penn Fibreboard Company has moved from 342 Madison avenue to 551 Fifth avenue, New York.

The Pacific Section of TAPPI meets at the Multonomah Hotel in Portland, Ore., on May 6 and 7. Benjamin T. Larrabee, TAPPI executive committeeman will be one of the principal speakers. Mr. Larrabee was formerly president of the Superintendents Association.

Al Johnson, partner of the consulting engineering firm of Johnson & Wierk, was married to Miss Eleanor Ives last week in Mount Vernon, N. Y.

Interstate Rate Decisions

WASHINGTON, D. C., May 4, 1932—The Interstate Commerce Commission has found that the rate charged on used offset paper, in rolls, in carloads, from Philadelphia to Menasha, Wis., are applicable and not unreasonable. The decision was rendered in the case of the Edgewater Paper Company against the Minneapolis, St. Paul & Sault Ste. Marie Railway and it has been dismissed.

The Commission has found also in the case of the Crown Williamette Paper Company against the Arizona Southern Railway Company that ratings and rates applied on paper merchandise envelopes, in carloads and less than carloads, between various interstate points in western territory are applicable. The applicable ratings and rates were not shown to have been or to be unreasonable or otherwise unlawful the Commission further found and the complaint has been dismissed.

New TAPPI Members

The Technical Association of the Pulp and Paper Industry announces the following elections to membership:

Riley M. Bates, manager of the paper division of Thomas M. Royal & Co., Philadelphia, Pa. Mr. Bates attended the University of Illinois. From 1924 to 1928 he was Chicago branch factory manager of the Bates Valve Bag Corporation, and in 1929-1930 he was manufacturing supervisor at Berlin, Germany, of the Bates International Bag Company.

Murray H. Bennett is supervising engineer for Stebbins Engineering and Manufacturing Company, Watertown, N. Y., and is a 1927 graduate mechanical engineer of the Clarkson College of Technology.

Anthony W. Deller is a consulting chemical engineer and patent attorney, located at 67 Wall street, New York. Doctor Deller graduated as a chemical engineer from Columbia University and received his Doctor's degree (J. D.) from New York University Law School. Recently a book entitled, "Patent Law for the Chemical and Metallurgical Industries," written by Doctor Deller was reviewed in the PAPER TRADE JOURNAL.

Charles W. Hoffman, chemist of the Riegel Paper Corporation, Milford, N. J., by whom he has been employed for the past six years.

Ernest M. Loveland, superintendent for George La Monte & Son, manufacturers of safety paper in Nutley, N. J., attended the Massachusetts Institute of Technology.

John E. Spalding is a research chemical engineer for the Oxford Paper Company, Rumford, Maine, and is a 1931 graduate of the Massachusetts Institute of Technology.

Edward P. Wood, chief chemist of the Pulp Division of the Weyerhaeuser Timber Company, Longview, Wash., studied chemical engineering at the University of North Carolina. Mr. Wood has worked for the following companies: Champion Fibre Company, Canton, N. C.; Parsons Pulp and Lumber Company, Parsons, W. Va.; Carnatic Paper Mills, Rajahmundry, India; Tonawanda Paper Company, N. Tonawanda, N. Y.; Oregon Pulp and Paper Company, Salem, Ore., and the Union Bag and Paper Power Company (now St. Regis Paper Company), Tacoma, Wash.

Central Paper Co. Denies Charge

[FROM OUR REGULAR CORRESPONDENT]

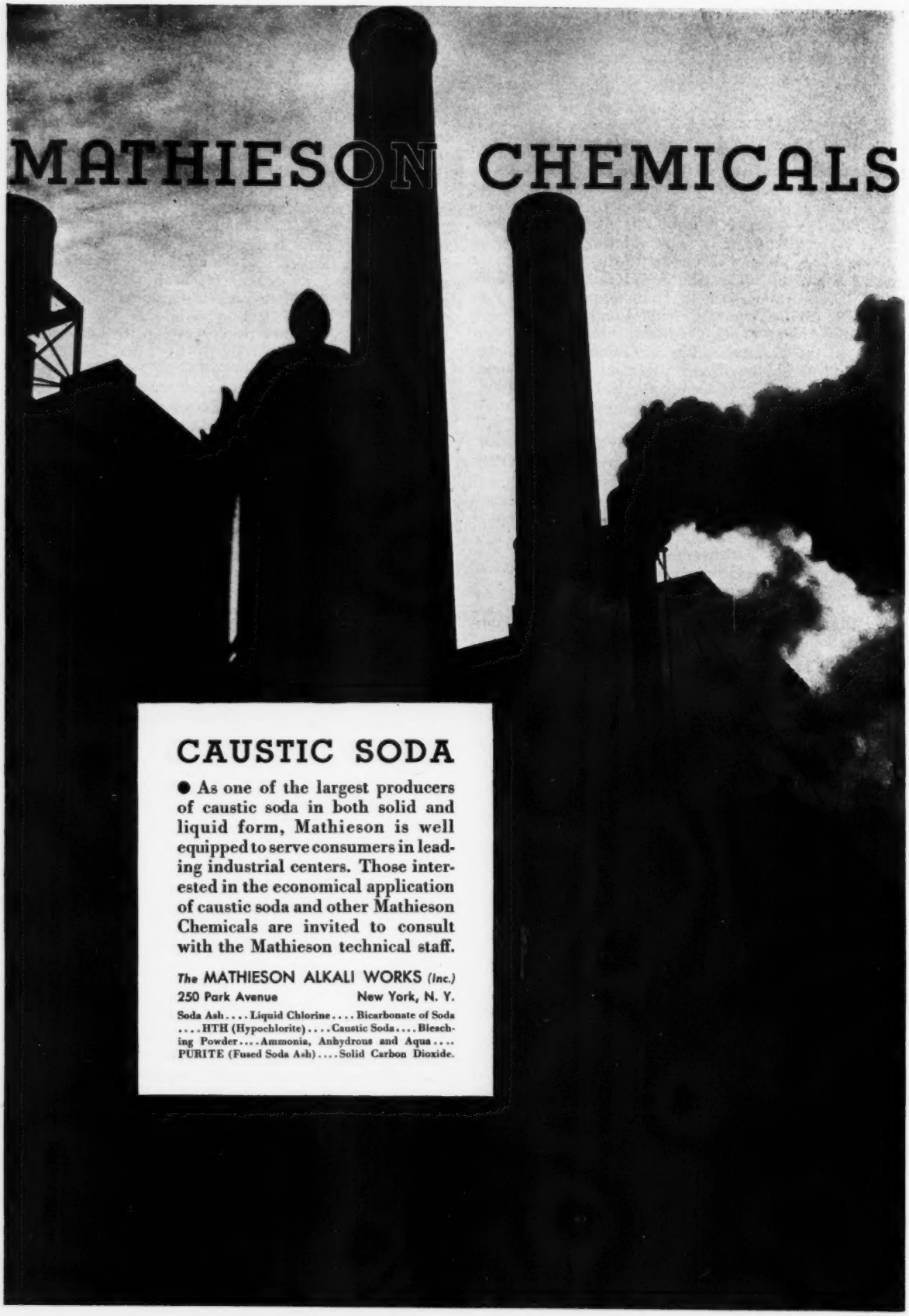
GRAND RAPIDS, Mich., May 2, 1932—Vacuum cleaner paper sold by Central Paper company to Air-Way Electric Appliances, of Toledo, Ohio, was developed by C. W. Smith, general manager of the Central Paper company and other Central Paper company employees, is the answer of the Muskegon company filed last week in the U. S. District court at Grand Rapids in the suit instituted by the Toledo concern against Central Paper company.

The answer sets forth that Air-Ways company was buying an inferior paper produced by another paper mill when approached by the Central Paper company with its new product. Since shifting to Central Paper company's product Air-Ways has made repeated efforts to secure the exclusive use of this paper under agreement with the Central company, it is alleged. The Central Paper company has at all times reserved the right to sell to any other vacuum cleaner manufacturer, the answer recites.

Mt. Vernon Strawboard Co. Dissolves

[FROM OUR REGULAR CORRESPONDENT]

Officials of the Mt. Vernon Strawboard Company of Mt. Vernon, Ind., have filed papers with the secretary of state in Indianapolis evidencing the final dissolution of the corporation.



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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

The National Research Council, 21st and B Street, Washington, D. C., through Dr. Clarence J. West, extends the courtesy of its photostat service to members of the Technical Association of the Pulp and Paper Industry. Owing to a limitation of personnel and time, this service cannot be extended to non-members.

The charge for the photostat service is: 9 x 11 inches—18 cents per page, 18 x 11 inches—35 cents per page, 22 x 18 inches—70 cents per page, minimum charge, 50 cents.

Payment should be made upon receipt of invoice.

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Beating

Continuous Batch Beating. C. W. Morden. Paper Trade J. 94, No. 6:36-38 (Feb. 11, 1932).—A description of the construction and operation of the Morden "Stock-Maker," with a discussion of its distinctive features and performance in actual mill operation.—A. P.-C.

Laboratory Beating of Bamboo Pulp. H. A. Harrison, World's Paper Trade Rev. 97:229-230 (Jan. 15, 1932).—Contrary to practically all chemical wood pulps, for which the tearing strength begins to decrease almost immediately after beating commences, with bamboo pulp the tearing strength curve rises very steeply until a wetness of 40 degrees Schopper-Riegler is reached.—A. P.-C.

Process for the Manufacture of Paper and Board. V. Antoine. Belg. pat. 278,831 (May 31, 1931).—The fine particles in the stock are coagulated to prevent them from passing through the wire. Coagulation is produced by acidifying the stock with excess of sulphate of alumina and then flocculating by means of an alkaline reagent; it may also be obtained by adding to the beater only a portion of the sizing agent and adding the remainder before the stock is fed to the paper-machine wire, at a point where the stock is relatively quiet.—A. P.-C.

Breaker Beater with a Revolving Drum Provided with Holes, Slits or Plates for the Continuous Removal of the Disintegrated Stock. Anton D. J. Kuhn, Bad Liebenwerda. Ger. pat. 524,234 (May 18, 1929).—The revolving drum, or plates subjected to a shaking motion, forms the upper part of the hood over the beater roll.—J. F. O.

Beater for the Beating, Mixing and Bleaching of Pulp and Stock in the Paper Industry. Firma J. M. Voith, St. Polten. Aust. pat. 124,567 (May 15, 1931).—The beater contains a bed plate at the side of the perpendicular plan of the roll.—J. F. O.

Jordan Plug. Archer Le R. Bolton assignor to John W. Bolton and Sons, Inc. U. S. pat. 1,829,630 (Oct. 27, 1931).—The purpose of the invention is to provide a plug with bars most of which are thicker at some plane outside the plane passing through the lines of contact with the plug surface than at the surface plane, whereby separators which are narrower at the top surface than at the bottom surface, can be used. By this arrangement the separators cannot come out but on the other hand they must be driven in from the end of the plug instead of being driven down from the top. The plug body is preferably formed at the surface of one continuous piece of metal, with grooves therein.—A. P.-C.

Pulp Beater, Extractor and Cleaner. John D. Haskell assignor to Dilts Machine Works, Inc. U. S. pat. 1,824,080 (Sept. 22, 1931).—The invention combines into a single compact machine a breaker beater, riffler and thickener (or wet machine). The chief feature of the riffler or sand-settling portion of the machine consists in providing removable bottoms to each of the settling compartments, so that they can be cleaned out as frequently as required without interfering with the operation of the machine.—A. P.-C.

Beater Roll Adjuster and Indicator. Bertram C. Hope. U. S. pat. 1,831,004 (Nov. 10, 1931).—The chief feature of the invention consists in providing means for utilizing the rotation of the beater roll to gradually and automatically lower it towards the bedplate, and also electrical means for disengaging the lowering mechanism at any predetermined point without interfering with the rotation of the roll itself. In addition, there is provided an adjustable gage and indicator to permit the preparation of a uniform stock and indicate the position of the beater roll relative to the bedplate.—A. P.-C.

Beating Engine. Wilhelm Thaler, assignor to American Voith Contact Co., Inc. U. S. pat. 1,833,058 (Nov. 4, 1931).—According to the invention adjustment and measurement of the beating pressure is effected by a balancing device under the influence of the weight of the beater roll, and their balance beams consist of one two-armed lever each, on one arm of which there is one bearing of the beater roll, whereas on the other arm an adjustable balancing spring acts in the sense of relieving the roll weight. The spring is provided with an indicating device. For completely raising the beater roll from the bedplate, the springs, being adjusted for a determined beating pressure, are

fixed in such a manner that the removing of the beater roll from the bedplate can be done by the same device that serves to adjust the beating pressure.—A. P.-C.

Beater Roll Construction. A. J. Allison, assignor to Simonds Worden White Co. U. S. pat. 1,821,604 (Sept. 1, 1931).—The roll comprises two end heads and an intermediate head, mounted on a common shaft. Each head has a series of wide recesses in its periphery, the walls of which converge outwards. The recesses in the several heads are in alignment, and a channel is inserted into each row of recesses. In each channel are inserted a number of fly bars, consisting of strips of corrugated sheet metal, standing on edge, and separated and held in place by spacing members. The spaces between the channels are filled with wood.—A. P.-C.

Beater. Wilhelm Thaler, assignor to American Voith Contact Co. U. S. pat. 1,832,882 (Nov. 24, 1931).—A hood or covered channel is provided above and beyond the backfall to receive the stock leaving the beater roll and deliver it back into the beater trough. This hood structure extends outwardly on a tangential line with respect to the head channel and return channel of the beater trough, the commencement of this tangential line being at the front wall of the beater vat and the end comprising the curved wall which unites it with the rear wall of the beater vat.—A. P.-C.

Jordan Engine Plug. Harry N. Weir, assignor to The Noble and Wood Machine Co. U. S. pat. 1,819,050 (Aug. 19, 1931).—The essential feature of the invention consists in providing an improved ring of hard, cast metal, preferably steel, to secure and wedge in place both the bars or knives and the wooden wedges. The ring fulfills the same functions as those now in use, and in addition it secures the wedges and protects them from warping, raising and being destroyed.—A. P.-C.

Continuous Beater Engine. William V. Knoll, assignor to Midwest-Fulton Machine Co. U. S. pat. 1,817,749 (Aug. 4, 1931).—A receiver trough or collecting pan is provided, parallel to the axis of the beater roll, and located above and back of the backfall, the distance being such as to permit the heavier particles of pulp discharged from the roll to fall by gravity back into the pulp stream flowing over the backfall, while the finished portion of the pulp discharged from the roll as a spray over and beyond the heavier falling particles are collected in the receiving trough in which a screw conveyor conducts it either to a succeeding beater engine of a series or to the beater chest.—A. P.-C.

Sizing

Does Surface Sizing Make the Paper More Permanent? Zellstoff U. Papier, 11, No. 12:702 (Dec., 1931).—Paper which is sized at the finish of the process has increased bursting strength and stretch but a lower tear. The fold remains unchanged, but the difference between the fold, with and across is less. Paper after being sized with animal size is more permanent than paper after sized with starch.—J. F. O.

Comparison of the Sizing of Paper by the Khinchin Process and by Size Prepared in the Cold. N. Ivanov. Bumazhnaya Prom. (Paper Ind.) 9, No. 8-9:46-54 (Aug.-Sept., 1930); Chimie & Industrie 26:1154 (Nov., 1931).—The Khinchin process consists in adding 0.4 to 0.8 per cent sodium carbonate to the beater after adding the size. The so-called cold sizing process is apparently similar to the Delthirna process. Use of both methods at the Volodarsky mill over a period of 5 months showed the following advantages: (1) For both processes: (a) 25 to 30 per cent saving in rosin; (b) decrease in foaming at the paper machine. (2) For the Khinchin process: (a) possibility of using existing equipment; (b) improvement in the general operation of the process. (3) For the cold-sizing process: (a) absence of deposits in the screens; (b) reduction in skilled labor required and improved working conditions; (c) saving in steam; (d) fewer repairs. The reduction in the production cost of paper at the Volodarsky mill in 1928-1929 was 5.56 per cent, of which 1.04 per cent was for the sizing.—A. P.-C.

Paper Coating Strength Factors. Harold R. Rafton. Paper Trade J. 94, No. 3:36-38 (Jan. 21, 1932).—An analysis of the effects of gravity makes it seem probable that the segregation of the pigment in a color film by gravity may, under certain conditions, influence the strength of the resulting coating, and this segregation may be minimized by increasing the viscosity of the color, by using pigments of low specific gravities, and particularly those which have very fine particle size.—A. P.-C.

Process for the Preparation of a sizing and Filling Material. Fritz Arledter, Cologne, Ger. pat. 528,312 (March 22, 1928).—An alkaline stearine emulsion (i.e. stearine borax emulsion) is mixed with sodium stannate and sodium albuminate. For example, 100 parts of stearine are melted together with 100 parts of borax and a little water, until a uniform emulsion is formed. 100 parts casein are soaked with 20 parts caustic soda and 50 parts of sodium stannate added. The albuminate and the stannate are then added to the stearine emulsion at temperatures under 60° and stirred.—J. F. O.

Drying

Heat Requirements for Drying Coated Paper. E. G. Milham and Severns Balch. Paper Trade J. 94, No. 7:145-149 (Feb. 18, 1932).—An example is given of the calculation of the amount of heat required for drying single coated paper.—A. P.-C.

Handling and Drying of Single-Coated Paper. H. G. Rappolt. Paper Trade J. 94, No. 5:46-49 (Feb. 4, 1932).—A brief outline of the development of the handling and drying of single-coated paper on festoon driers.—A. P.-C.

Heat Reclamation in Paper Drying. F. C. Farnsworth. Paper Mill 55, No. 7:4, 14 (Feb. 13, 1932).—The importance of passing steam through the driers at high velocity to ensure freedom from air is emphasized.—A. P.-C.

Drying Surface Sized Papers. J. C. Corcoran. Paper Trade J. 94, No. 3:24, 26 (Jan. 21, 1932).—A brief discussion of the McCorkindale method, which consists essentially in drying surface-sized papers between two traveling felts passing around drying cylinders.—A. P.-C.

Drying Paper on Yankee Driers. R. S. Wertheimer. Paper Trade J. 94, No. 5:49-50 (Feb. 4, 1932).—Quantitative tests carried out on a 12-foot by 180-inch Yankee drier to determine the effect of air scavenging on drying rates showed that the latter was increased from 20 to 23 per cent by the use of hot air over the drier, as against natural circulation.—A. P.-C.

Dewatering Pulp by Means of Continuous Presses. Papeterie 54:9-18 (Jan. 10, 1932).—A brief description of the Colin continuous pulp press and of its advantages and applications.—A. P.-C.

Apparatus for the Removal of Water From the Fibrous Materials in the Manufacture of Paper. Fritz Pfeffer, Berlin. Ger. pat. 521,504 (April 10, 1929).—J. F. O.

Machine for the Removal of Water from Paper and Board Stocks. Paul Pape, Herischdorf. Ger. pat. 528,352 (June 19 1924).—Alongside of the breast roll formed as a suction roll, is a correspondingly higher, suitably built stock chest which is so arranged that the stock to be thickened is forced in a tangential direction onto the breast roll. The quantity of stock to the breast roll is regulated by a valve which opens the longitudinal aperture.—J. F. O.

Device for the Drying of Roofing Board, and Similar Materials. Valentin Jaeggle, Erste Trautenauer Maschinenfabrik. Trautenau. Czech. pat. 35,238.—J. F. O.

Dryer Felt with Several Layers Manufactured from Asbestos and Other Fibers for Paper and Board Machines. Hutter & Schrantz A.G., Vienna. Aust. pat. 122,805 (Jan. 15, 1931).—The felt consists of three layers of which only the middle layer

contains transverse threads of asbestos or other textile fibers spun with asbestos. Such a felt is fulled in all directions and guarantees an absolute smooth, non-marking working surface and is less sensitive against heat and possesses greater adhesion to the surface which it covers.—J. F. O.

Process and device for the Drying of Paper Around a Single Drying Cylinder Without a Felt and Covered with a Hood. E. A. Oehlin, Hylte Bruk, Sweden. Aust. pat. 122,695 (Feb. 15, 1931).—Between the hood and the drying cylinder, a drying space is provided through which pre-heated air is led in the direction of the sheet.—J. F. O.

Moisture Regulator for Paper and Similar Webs. Josef Muchka, Vienna. Aust. pat. 123,262 (Feb. 15, 1931).—Addition to Aust. pat. 120,248.—J. F. O.

Digesters

Carbon Uses in the Pulp and Paper Industry. A. D. Camp. Paper Trade J. 94, No. 8:38-39 (Feb. 25, 1932).—It is suggested that wherever corrosion problems are encountered in the pulp and paper industry carbon can be considered as a construction material.—A. P.-C.

Digester Linings Respond to Fair Treatment. A. S. Quinn Pacific Pulp Paper Ind. 5, No. 13:20-21 (Dec., 1931).—A brief discussion of the proper installation and care of digester linings, so as to ensure minimum lining-cost per ton of pulp produced.—A. P.-C.

Arrangement for the Circulating of Digesting Liquor in Wood Pulp Digesters. Einar Morterud. U. S. pat. 1,831,748 (Nov. 10, 1931).—The invention relates to digesters provided with an internal or external conduit for circulating the liquor from top to bottom, or inversely. It provides that the lower end of the circulation pipe shall be located coaxially with the digester, without having any connection with the conical bottom of the digester, and that the screen protecting the end of the conduit shall be in the form of a cone with the apex pointing downward.—A. P.-C.

Process for the Treatment of Wood Pulp by Percolation. Einar Morterud. U. S. pat. 1,819,963 (Aug. 18, 1931).—Percolating liquid is supplied intermittently at the top of the digester, so as to cause an intermittent flow of liquid through the material being treated. The process is particularly adapted to the washing of digested pulp, but can also be used in connection with the digesting process proper. In the latter case, liquor may be pumped continuously from the bottom of the digester into a tank placed above the digester and provided with a siphon outlet so that it discharges intermittently into the top of the digester.—A. P.-C.

Distributing Device for Introducting the Cooking Liquor into Pulp Digesters. A Bol. Karlstads Mek. Verkstad. Swed. pat. 71,512 (May 2, 1929).—One or more distribution cones are arranged before the curved end of the liquor inlet line within the digester, for the purpose of improving the distribution of the cooking liquor.—J. F. O.

Process for the Filling of Pulp Digesters with Chipped Wood. Ferdinand Christiansen, Helsinki, Finland. Czech. pat. 34,117. —One or two grooves diametrically opposite and fastened longitudinally to the rotating axis, acts in such a manner that the wood chips are distributed evenly throughout the digester.—J. F. O.

Pulp Digester. Knut Madsen Strand, Drammen, Norway. Ger. pat. 527,206 (Aug. 11, 1929).—The screen ordinarily arranged in the vicinity of the outlet valve for the pulp, consists of a number of separate hollow bodies, placed around the inner circumference of the digester. The hollow bodies are provided with supports for the heating coils, and have holes which face the center of the digester.—J. F. O.

Device for the Automatic Separation of the Pure Steam from the Impure Condensate Coming from Pulp Digesters which are Heated by Indirect Steam. Papeteries Navarre, Soc. An. Lyon. Swed. pat. 72,482 (Nov. 24, 1928).—The device consists of a container in which the condensate enters at the bottom. The outlet for the container has a two-way valve which can either be connected to a return line for the pure water or with a drain line for the impure water.—J. F. O.

Device for the Forced Introduction of the Cooking Liquor for Pulp. Einar Morterud, Torderoed, Norway. Aust. pat. 123,422 (Feb. 15, 1931).—The ends of the circulation lines openings at the top and the bottom of the digester are closed by screens.—J. F. O.

Filling Device for Pulp Digesters. Schlesische Cellulose und Papier-fabriken A.G. Cunnersdorf. Nor. pat. 49,184 (Aug. 25, 1930).—Steam is introduced from a circular pipe under a conical device placed into the throat of the digester during filling. The steam thus hastening the fall of the chips and also packs the same more compact.—J. F. O.

Method and Apparatus for Determining the Result of Treatment of Material. Bjarne Johnsen assignor to Hammermill Paper Co. U. S. pat. 1,827,658 (Oct. 13, 1931).—The yield and quality of pulp obtained in any particular cook can be accurately determined by attaching to the digester a vessel of suitable size in which is placed a small quantity of the material to be cooked, and circulating the digester liquor continuously through the small container during the cook.—A. P.-C.

Acid-proof Cement for the Sulphite Industry. Wochbl Papierfabr. 62, No. 47:1101-1102 (Nov. 21, 1931).—Discussion of an acid-proof cement which is made by the Welhaven & Co. in Oslo, Norway. This cement has been used since 1903 and has given excellent results.—J. F. O.

Machinery

Equipment Developments in 1931. E. F. Bearce and R. G. Macdonald. I. General Paper Machinery. Paper Trade J. 94, No. 7:95-117 (Feb. 18, 1932). II. Pumps and Consistency Control. Ibid: 117-123. III. Instruments and Recorders. Ibid: 123-131.—A. P.-C.

Graphical Calculation of Paper Machine Production. W. F. Gillespie. Paper Trade J. 94, No. 3:35 (Jan. 21, 1932).—A chart and nomographic scale for rapidly estimating paper machine production are given and the manner of using them explained. —A. P.-C.

Paper Making Machine. W. H. Millspaugh. Belg. pat. 377,-820 (April 30, 1931).—The sheet is formed in two piles on two forming suction rolls around each of which passes an endless wire cloth. The two piles are combined by passing one of the wires into contact with the other over one of the forming rolls at a point where strong suction is exerted to ensure strong adherence of the two plies.—A. P.-C.

Factors in the Wear of Machine Wires. James Strachan. Paper Maker & Brit. Paper Trade J. 83:TS81-82 (Feb. 1, 1932). —A brief discussion of the various factors involved in the wear of machine wires during normal operation.—A. P.-C.

Word's Largest Harper Fourdrinier Machine. Harry E. Weston. Paper Ind. 13:1314-1316 (Feb., 1932).—A description of the 178-inch Harper fourdrinier machine placed in operation in July, 1930, at the mill of Moyer & Pratt, Inc., Lyonsdale, N. Y. —A. P.-C.

Fourdrinier Paper Machine. Wm. H. Millspagh, Fr. pat. 714,-445 (Feb. 28, 1921).—The wire is extended beyond the couch roll and passes around a roll smaller than the couch. A single three-roll press is provided, the lowest roll being in contact with the fourdrinier wire between the couch roll and the return roll. The two bottom rolls of the press are suction rolls and each is provided with two suction boxes placed approximately diametrically opposite each other. In each case, the lower of the two suction boxes is used chiefly to transfer the paper sheet from the wire to the lower roll and from the lower to the upper roll, respectively.—A. P.-C.

Rubber Covered Suction Rolls. P. M. Foster. Paper Ind.

13:1317 (Feb., 1932).—A brief outline of their advantages.—A. P.-C.

Device for the Barking of Logs. Emil Dietz, Ronneberg. Ger. pat. 523,060 (Feb. 14, 1929).—A knife type barker.—J. F. O.

Log Barker. C. B. Thorne. U. S. pat. 1,827,052 (Oct. 13, 1931).—The logs are fed into a large pocket, the bottom of which is formed of spaced longitudinal beams. Under the pocket is a movable carriage, provided with sprockets engaging longitudinal chains and projecting into the pocket through the spaces between the bottom beams. The carriage is reciprocated in order to keep the logs continuously tumbling and rolling so as to rub off the bark.—A. P.-C.

Slab-Barking Machine. Walter D. Talbott and Levi Bannerman assignors of one-third to Frederick E. Hummel. U. S. pat. 1,818,657 (Aug. 11, 1931).—The slabs are fed over two rotating disks with upwardly extending knife blades. The disks are slightly inclined toward each other, and the slabs are given a rocking motion while passing over the knives to ensure complete removal of the bark from all portions. Provision is made to accommodate automatically slabs of various sizes.—A.P.-C.

Wood Chipper with the Feed Trough Rectangular and Directed Obliquely to the Axis of the Disc of the Chipper. Heinrich Wigger & Co., Unna. Ger. pat. 526,145 (Dec. 3, 1929).—The walls and bottom of the trough are arranged at certain angles to each other.—J. F. O.

Process and Apparatus for Pulping. George S. Witham, Jr. U. S. pat. 1,831,642 (Nov. 10, 1931).—A large horizontal drum, 30 feet or more in length and 10 feet or more in diameter, built of perforated plates or screens bolted or riveted together, rotates in a tank so that the lower portion of the drum is immersed in water. A number of inwardly extending baffles are provided inside the drum. Laps or bales of pulp or waste papers are introduced inside the drum and sprayed with water, and the drum is rotated until the material is sufficiently disintegrated to pass through the openings of the perforated plates or screens.—A. P.-C.

Method and Apparatus for Reclaiming Waste Roofing Material. Chester R. MacDonald, assignor to The Patent and Licensing Corp. U. S. pat. 1,831,779 (Nov. 10, 1931).—Impregnated-roofing trimmings, and similar scrap material, is fed into a horizontal cylindrical casing in which there is a screw conveyor which forces the material through a perforated metal plate. The drum is preferably heated, e.g., by means of a steam jacket. On emerging from the perforated plate in the form of soft rods the material is chopped up and thoroughly mixed by means of one or more sets of rotating blades coacting with a corresponding number of sets of stationary blades. The thoroughly worked up and disintegrated material may be discharged from the machine in the form of a sheet through a suitable shaped nozzle which delivers it on to an endless conveyor, after which it may be further treated to convert it into finished wall board, etc.—A.P.-C.

Arrangement for Knotter Plates. Linkopings Armatur och Metallfabriks A. Bol. Linkoping. Swed. pat. 72,627 (Oct. 10, 1930).—The strips between the slits possesses a support in the form of one or more rods lying transverse to the slits. The rods are so made to decrease the resistance of the stock and to give the slits the use of the greatest possible length.—J. F. O.

Circulating System for Pulp Digesters. David B. Davies. U. S. pat. 1,817,129 (Aug. 4, 1931).—The object of the invention is to provide an apparatus for circulating digester liquor having no moving parts and capable of effecting a rapid circulation within the digester. It comprises an auxiliary tank of suitable size the top and bottom of which are connected respectively to the top and bottom of the digester by means of valved pipes. By opening the valve in the upper pipe and closing the one in the lower pipe liquor is forced into the auxiliary tank; when the latter is sufficiently filled, the upper valve is closed, the lower valve is opened and the liquor is forced back by steam pressure into the bottom of the digesters. The cycle is then repeated.—A.P.-C.

Process for the Manufacture of Plates for Knotters and Fittings for the Production of Pulp. J. Harden, Lidingo. Swed. pat. 72,509 (April 12, 1929).—The products are manufactured from an aluminum alloy, containing besides aluminum, 0.5 to 3 per cent chromium and 1 to 25 per cent copper, and the mass smelted together in a special manner in an induction or high frequency oven.—J. F. O.

Pumping Wood Pulp and Paper Stock. M. M. Klosson Paper Trade J. 94, No. 7:133-138 (Feb. 18, 1932).—A discussion of the selection and performance of pumps for pumping paper stock.—A.P.-C.

Process for Treating Fibrous Materials. Carl Leyst-Küchenmeister. U. S. pat. 1,827,710 (Oct. 13, 1931).—The patent covers a so-called "Universal machine" in which the raw material can be digested and the pulp washed, bleached and beaten. The machine consists essentially of a vertical tank with a vertical, rotary shaft, to which are fixed radial knife blades co-acting with stationary knife-blades on the wall of the tank. For the digestion of cellulosic materials, the tank is charged with the material and water and the shaft is rotated at a speed of up to 1500 r.p.m., which can heat up the charge to 212°F. in about 1 hour. Cooking chemicals may then be added at a later stage to obtain more complete disincrustation. Washing may be effected by introducing water continuously at the bottom and drawing off the spent liquor and wash waters through a screen at the top.—A.P.-C.

Conveying Device for Paper Pulp. Richard T. Lang, assignor to American Voith Contact Co., Inc. U. S. Pat. 1,829,563 (Oct. 27, 1931).—The pulp is fed into a trough having a screw conveyor which forces the pulp in a compact mass into a receiving chamber. From the chamber the pulp passes through a shredder or disintegrator directly into a conveyor conduit through which the disintegrated material is conveyed to a desired point for further treatment.—A.P.-C.

Pulp Screw. Harold D. Wells. U. S. pat. 1,834,298 (Dec. 1, 1931).—Inward flow screening and centrifugal separation are combined in the same machine, and at the same time revolving screens and shower pipes are completely eliminated. A stationary, horizontal, cylindrical screen is mounted within a casing. The unscreened stock is introduced into the casing outside the screen, and the good stock passes inwardly through the screen under the action of a number of scrapper bars which are rapidly rotated on the outside surface of the stationary screening cylinder.—A.P.-C.

Rotary Pulp Screen. John A. Wiener. U. S. pat. 1,821,684 (Sept. 1, 1931).—The machine comprises an open-top vat or tank in which rotates an inverted frustro-conical screen, also having a normally open top and an imperforate concavo-convex bottom. The unscreened pulp is introduced through a central tube opening at or near the bottom of the screen, and the tailings are discharged over the flared top of the screening basket into a trough concentric with the screen. A simple mechanism is provided for producing short and quick vibrations of the shaft and screen, which agitate the pulp and tend to prevent clogging of the screen.—A. P.-C.

Save-All, Paper Machine, Etc. Joseph A. White assignor to The Moore and White Co. U. S. pat. 1,820,854 (Aug. 25, 1931).—The invention provides a construction for cylinder paper machines, or cylinder save-alls, such that the water passes through the cylinder twice, first inwardly causing the stock to adhere to the outer surface of the cylinder, then through the cylinder face from the inside to an outlet. In this way sprays and showers may be eliminated, and the cylinder is kept absolutely clean.—A. P.-C.

Power Factor and Means for Its Improvement *

By R. H. Rogers[1]

Lagging power factor was invented August 29, 1831 by Michael Faraday. It is true that Mr. Faraday did not know that he had introduced lagging power factor when he wound two coils of wire on an iron core and demonstrated magneto-electric induction. There is little wonder that power factor is misunderstood when we consider that it got by scientists and engineers until transformers, generators, motors and solenoids were well on their way before it was pinned down and identified as the pest that it is.

When iron is magnetized by alternating current, current is taken from the system during alternate quarter cycles, but it is returned to the system during the intermediate quarter cycles. That is, during the quarters when current value is increasing, the iron is being magnetized; during the quarters when current value is decreasing, the iron is being demagnetized and the borrowed magnetizing current is returned to the system. This energy that is supplied from the power station in the first 240th of a second on a 60 cycle system henceforth rushes in and out of the system with no further drag on the coal pile. However, it requires just as much room in all the conducting media in the system ampere for ampere as energy that is going to make light, heat or power.

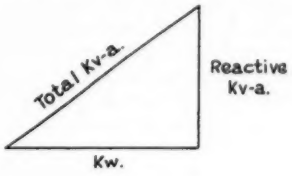


FIG. 1

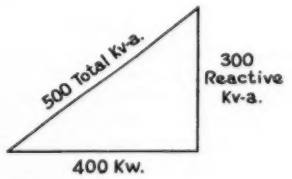
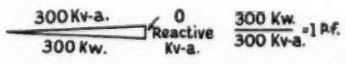


FIG. 2

$\frac{400}{500}$ = 0.8 or 80% Power-factor

FIG. 3



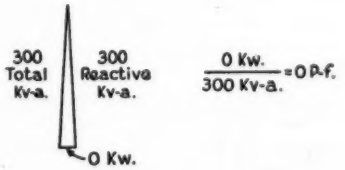


FIG. 4

The total Kv-a. in a circuit is not the arithmetical sum of reactive (magnetizing kv-a.) and active kv-a. (kilowatts); it is the square root of the sum of the squares of the reactive and active components. The relations are shown graphically in the right triangle (Fig. 1) using the base for kilowatts, the vertical for reactive kv-a. and the hypotenuse for total kv-a.

Kilowatts divided by total kv-a. is the power factor. It may be expressed as a percent or as a decimal as in Fig. 2.

It is apparent that power factor cannot exceed unity for with no reactive kv-a. the hypotenuse becomes identical with the base and a number divided by itself equals 1. On the other hand, when all the energy in the circuit is used for magnetizing, there is no kw. component and the hypotenuse becomes identical with the reactive kv-a. Hence 0 kw. divided by total kv-a. becomes 0 power factor. Both these conditions are illustrated in Fig. 3.

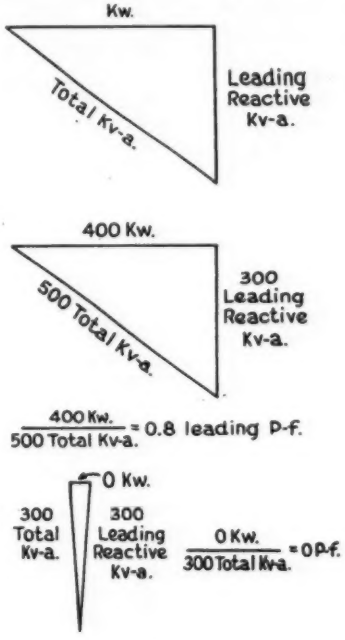


FIG. 5

Since the current wave for magnetizing energy lags behind the power current wave, this reactive kv-a. and the consequent power factor are called *lagging*. Fortunately certain devices put and take current in the manner described but the reactive current wave leads the power current wave. This form of reactive kv-a. and the consequent power factor is called *leading*.

When put in the form of a diagram, leading reactive kv-a. is drawn vertically downward from the horizontal kw. line thus: (Fig. 4).

Typical cases may then be shown as in Fig. 5.

A circuit having leading power factor must contain as much copper (for a given voltage drop) for a given leading power factor as it would for the same lagging power factor.

It is clear that the higher the kw. with respect to reactive kv-a. the higher will be the power factor. The magnetizing energy taken from an a-c. source is constant for a given unit but the load may vary and the higher the load the higher the power factor will be.

Common sources of lagging power factor are transformers, induction motors, induction furnaces and solenoids. Low lagging power factor comes from underloaded transformers, underloaded induction motors and from low speed induction motors.

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Contribution of the TAPPI heat and power committee.

[1] Industrial engineering dept., General Electric Company, Schenectady, N. Y.

Typical power factors for 220, 440 and 550-volt normal induction motors are:

Horse Power	R.P.M.	Half Load	Full Load
1	3600	.72	.87
1	900	.52	.70
5	3600	.80	.90
5	600	.48	.70
25	1800	.80	.90
25	600	.42	.67
100	1800	.88	.94
100	600	.76	.875

Sources of unity power factor are lights, resistance heating devices, synchronous motors with normal excitation, alternators with normal excitation.

Sources of leading power factor are synchronous motors with reduced loads or increased excitation, synchronous condensers and capacitors. The last two are characterized by 0 leading power factor.

Typical power factors for synchronous motors are: (Groups indicate same frame size)

Horse Power		Leading Power Factor
25	Unity	..
22		.9
20		..
		.8
50	Unity	..
45		.9
40		..
		.8
100	Unity	..
90		.9
75		..
		.8
200	Unity	..
180		.9
150		..
		.8

Low power factor or in fact of any value less than unity puts a tax on the whole electric system from generator coupling to the point where the energy is converted to some other form as light, heat or power. It does not tax the prime mover once the necessary energy is plugged into the system in the first 240th of a second.

Fig. 6 illustrates two ways of taking advantage of improved power factor. The first diagram shows .5 power factor, that is, the total kv-a. load is double the kw. load. The second diagram shows unity power factor with the turbine loaded the same but with one generator, half the cable-copper and two transformers eliminated. The third diagram also shows unity power factor, with the addition of a second turbine, the motor load doubled and the generators, cables and transformers as in the first diagram.

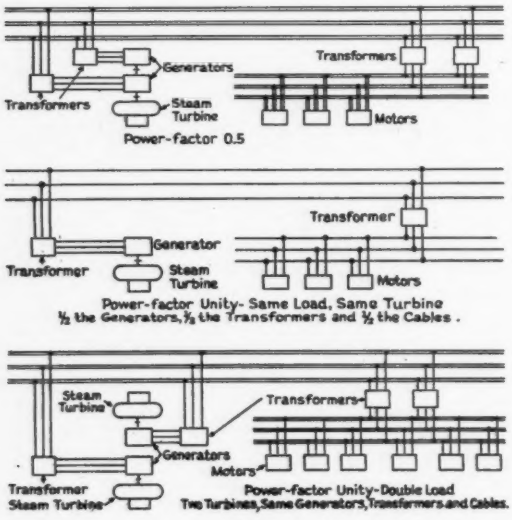

FIG. 6

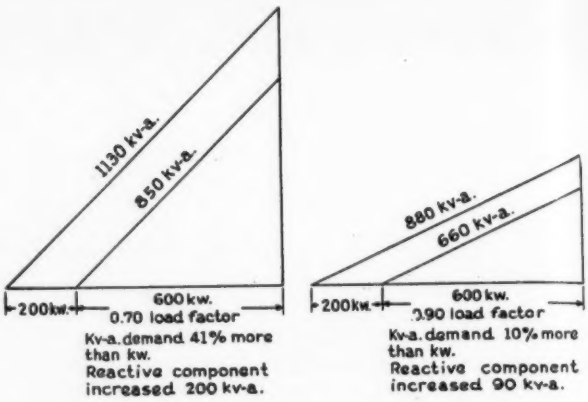

FIG. 7

These diagrams show in the first case double investment in generators, transformers and cables as compared with the same load on a unity power factor system as shown in the second case. The third case shows the same investment in cables, transformers and generators as in the first case but with prime movers doubled and load doubled.

Now suppose a system has been laid out with enough of everything for a reasonable voltage drop for the load at a reasonable power factor. If the load is increased at the same power factor or if the power factor is lowered the voltage drop is going to be greater. This will cause motors to develop less torque at starting, will cause excessive voltage dips when large motors are started and when overloads come on. Induction motors will have greater slip. Under-voltage relays will stop motors more frequently. Lights will be below normal brilliancy and will be dimmed more often and to a greater extent.

All these symptoms point to reduced production.

Rate structures for purchased power usually include demand charges and energy charges. The demand charge may be based on a fifteen minute total kv-a. demand which in some cases determines the demand charge for the following twelve months. The energy charge is for kw. hours shown on the kilowatt hour meter. It is good economy to keep the demond close up to the ruling demand once that is established or, in other words, to keep the ruling demand down close to the average demand. With lower power factor, when it is necessary to meet a peak kw. demand, the total kv-a. will run up to an excessive value because of the large reactive kv-a. component. High power factor keeps kw. loads and total kv-a. demand close together and the ruling demand is not likely to be increased very much or very frequently because total kv-a. does not change so much with a given kw. change. The demand charge is very favorably influenced by high power factor from the purchaser's standpoint as shown in Fig. 7.

In order to derive revenue from the excess investment required to furnish kw. to low power factor customers and to be fair with customers having a high power factor the rate structure often includes a clause which introduces penalty and bonus. For instance, the kw. used may be increased in the billing by ½ per cent for each 1 per cent that the power factor is below 85 per cent. Likewise the kw. hours will be decreased by ½ per cent each per cent that the power factor is above 85 per cent (up to unity). As an example, suppose two industrial plants each use 150,000 kw. hours in a given month. One has a power factor of .70 and is billed for 161,250 kw. hours. The other plant has a .95 power factor and is billed for 142,500 kw. hours. At a rate of 1½ cents per kw. hour, the latter plant is billed $281.25 less for the month on energy charge alone. Power factor clauses vary widely but this one will illustrate the fact that good power factor pays on the energy part of the bill as well as on the demand part.

To summarize, the industrial purchaser of electricity is favored by high power factor in these ways:

(a) By being able to increase loads without bringing on excessive voltage drop because the reactance drop is negligible and resistance drop only need be considered.
(b) Motor behavior in starting, running and under overloads is much improved with consequent better production rate.
(c) Lights are brighter and steadier.
(d) Demand charges are less because the ruling maximum is not likely to be so much over average demand.
(e) Kw. hour charges are less since the penalty bonus rates favor high power factor.
(f) A given amount of power will be delivered to machines at a lower operating cost.

Careful planning in layout of an electrical system and subsequent readjustments will give a plant a high power factor. When changes and additions are necessary it should be kept in mind to maintain or improve the existing power factor, otherwise, not being obvious, it may be overlooked to the continuous year-in and year-out detriment of the industry.

The first consideration is the induction motor group. High speed units should be chosen wherever the type of drive will allow. Direct-connection or other simple drives if possible with slow speed motors should be given full consideration however, as a poor driving system might be worse than the effect that unit might have on the plant power factor. Motors should be chosen so that they will be fully loaded most of the time. If in doubt as to power required for a given drive either make a test or draw on the experience of others rather than follow the easy course and choose a motor that is too large. Motor manufacturers have had wide experience in motorizing and they will gladly assist in determining motor sizes.

There are many derivatives of the normal torque, normal starting current squirrel cage motor. Each has desirable characteristics for specific drives. In every derivative the power factor is lower than that of the normal motor and this should be considered in making the choice.

Tests should be made after motors are in regular operation to see that the average load is near the nominal load on which heating guarantees are based. On motors having exposed stator punchings one should not be able to bear a hand upon them for more than a half minute. Any that appear unduly cool should be checked by instruments. In many cases motors may be shifted

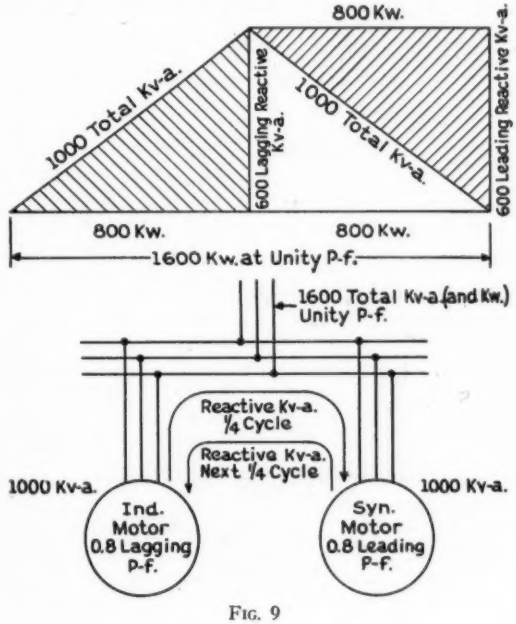

Fig. 9

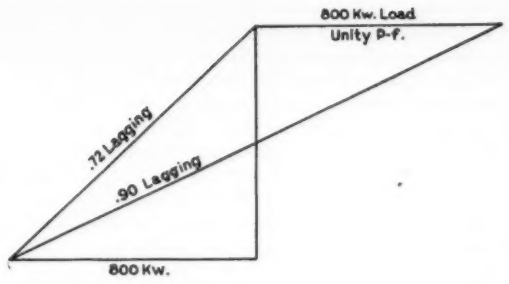

Fig. 8

about to equalize the loads at near name-plate values. It may be necessary to hold in storage some motors that are too big for their jobs and substitute smaller ones. The retired motors may be reapplied later on more suitable drives.

When part of the load in an industrial plant is carried by synchronous motors, the power factor is likely to be good even if unity power factor motors are used. The mixture of kw. and lagging reactive kv-a. is diluted and the undesirable ingredient is partly neutralized. Fig. 8 shows the effectiveness of unity power factor loads in improving power factor. The characteristics have been made so satisfactory, especially in the general-purpose class, that they may be applied with no more engineering precautions than are used with squirrel-cage induction motors. Motors 200 h.p., and down to 20 h.p. in speeds over 450 r.p.m. may well be synchronous if constant speed is suitable. Special duty motors in large sizes, low speeds, and with special torque characteristics are obtainable in the synchronous type.

Synchronous motors when overexcited furnish leading reactive kv-a. in cycles timed directly opposite to the cycles of lagging reactive kv-a. of induction motors.

Thus when induction motors require magnetizing current during alternate quarter cycles, overexcited synchronous motors on the same system furnish it; when on the intermediate quarter cycles the induction motor returns this wattless current to the system the synchronous motors are ready to take it.

The ability of these motors to exchange leading reactive kv-a. for lagging reactive kv-a. makes them especially applicable where the power factor would otherwise be too low. Fig. 9 shows an .8 lagging power factor induction motor neutralized to unity power factor by an .8 leading power factor synchronous motor. Since reactive kv-a. is an output of the unit, the horsepower must be reduced so that there is no increase in total kv-a., at the same time the d-c. field excitation must be increased. In the event that the motor load can be entirely relieved, the entire output becomes leading reactive kv-a., the power factor is nearly 0 leading, and the maximum corrective effect is obtained. When so operated the unit is practically a synchronous condenser.

The other marked advantages such as, large air gap, high efficiency and simple compact construction make synchronous motors the logical first port-of-call for means to improve power factor.

Another means for combating lagging reactive kv-a. is afforded by capacitors or static condensers. Each capacitor unit contains many sheets of thin metal foil separated by dielectric—thin sheets of paper. Alternate metal sheets are connected to one terminal and intervening metal sheets to another terminal. When connected to an alternating current system, current is absorbed during alternate quarter cycles and is released during each intervening quarter cycle. Since this cycle leads the power cycle it is timed right to neutralize the lagging reactive kv-a. of induction motors just as the leading power factor synchronous motor does.

The capacitor units are made in various sizes and are assembled in groups to furnish the required leading reactive kv-a.

Capacitors can be installed at low expense since there are not

rotating parts, no power taken off and the weights are very moderate. Maintenance and attendance costs are practically absent. Floor space is effectively used since the usual arrangement of units is high and narrow. Capacitors are sometimes applied to one motor but more often to a group of motors or the power factor of a whole plant may be corrected at one point.

Synchronous condensers are rotating units similar to synchronous motors and are operated overexcited to furnish total output as leading reactive kv-a. These condensers can be used for power factor regulation by varying the excitation. With underexcitation the unit supplies lagging kv-a. which at times may be needed to hold a system to unity power factor.

For maximum economy power factor correction should take place at or as near as possible to the sources of lagging reactive kv-a. High or unity power factor for a plant as a whole gets an advantageous power rate but unless power factor is good throughout the plant the other benefits are lost. The judicious placing of unity power factor or leading power factor synchronous motors and capacitors, on circuits carrying induction motors, will correct low power factor close to its origin and the whole distribution system and mill operating conditions will be benefitted.

An exhaustive study of a given power-factor situation in order to compare many possible ways for improvement would ordinarily involve a great number of computations along carefully thought-out lines. These computations do not come as easily as they once did for most of us, and besides, there are many in positions to suggest power factor improvements who are not familiar with "trig" tables, or with substitute methods of figuring such matters. The graphic method, making use of a recently devised plotter has the advantages of making the problem visible, avoiding errors, and suggesting expedients that never would occur to one through a maze of figures. The power factor plotter illustrated in this paper, together with the folder (GET-191-A) giving ten practical problems and their solution, will be found very helpful in all industrial plants using alternating current power.

Power Factor Computations

Every individual power factor condition may be represented by a right triangle, or if unity or 0, by a straight line. The utility of the graphic method becomes apparent when it is noted that diagrams such as Fig. 2, Fig. 3 and Fig. 5 can be coupled together for two or more loads and the overall power factor can be read directly. Further, it makes no difference in what order the load diagrams are combined.

Fig. 10—Combination of lagging, unity and leading power factor loads.

Leading power factor, by itself, is just as undesirable as lagging power factor, but leading reactive kv-a. can neutralize lagging kv-a. and improve power factor, for which use it is highly desirable. Increasing the kw. without increasing the kv-a. improves power factor, hence it may not be necessary to introduce any leading reactive kv-a. or an increase in kw. can be combined with some leading reactive kv-a. to get the desired effect. It is difficult to carry all these possibilities in mind while making calculations commonly used, and for this reason the power factor plotter was devised.

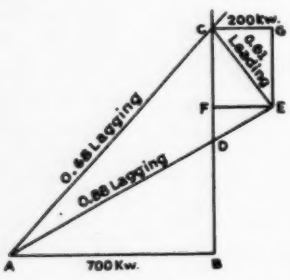

Fig. 12

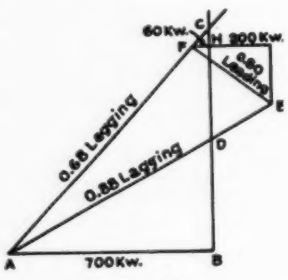

Fig. 13

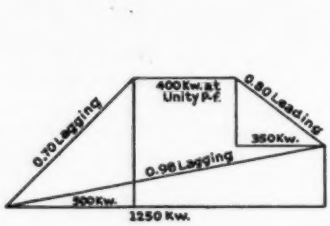

Fig. 10

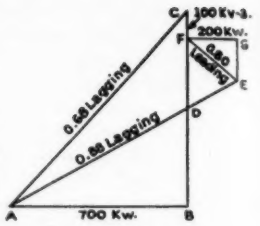

Fig. 14

We will now take up the power factor plotter and its use. The plotter, Fig. 11, is a 4 inch x 4 inch, bristol board card. Along the bottom edge is a decimal scale from 1 to 10 which may of course represent units, tens, hundreds, or thousands according to the magnitude of the values involved. This scale is used for laying off in a diagram the known values and for measuring the unknown values. This can be applied to any line to lay off or determine a value. Angles are drawn on the plotter to represent power factors from unity to zero both leading and lagging. There is an angle for each point, i.e., .99, .98, .97, .96, etc. These angles are used for laying down known power factors and for reading resulting power factors after the diagram is complete. This enables every angle to be laid off or measured, with the pivot or angle point at the point 5. As already stated every condition can be shown by a scale triangle or straight line. Every combination can be shown by adding one diagram to another and reading the overall results.

Now there are several ways in which power factor can be improved. The costs will vary and after the several ways are plotted, costs under local conditions can be determined, savings and costs compared, and the best method can be selected. Among the means are substituting high speed induction motors for low speed units, fully loaded motors for under-loaded ones, substituting unity or leading power factor synchronous motors, applying capacitors (static condensers) or synchronous condensers, adding or substituting other unity power factor loads such as lights or resistance heating units. It may be expedient to use several of these means to attain the desired results to best advantage.

As we have space for demonstrating only one problem we will investigate several methods for attaining the new end.

Given: A 700 kw. load at .68 lagging power factor which is to be improved to .88 lagging power factor, taking advantage of added load, without increasing the system heating or voltage drop (keeping total kv-a. the same).

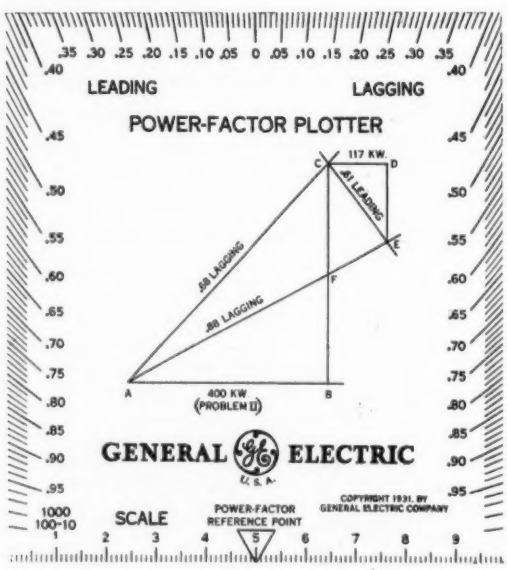

Fig. 11

Fig. 12—Draw ABC to represent 700 kw. at .68 lagging power factor. Draw AD at the .88 power factor angle and extend it to E to equal AC, i.e., AE represents the same total kv-a. as AC. Measure EF which shows 200 kw. can be added without increasing the heating or voltage drop. Now to find a way to improve the power factor to get this advantage.

Draw CGE to represent a leading power factor synchronous motor load aggregating 200 kw. Check the power factor angle of CE (Angle CGE) and it shows that .61 is needed. In other words, a .61 leading power factor synchronous motor giving 200 kw. can be added to a .68 lagging 700 kw. load without increasing the system heating or voltage drop.

Fig. 13—Now let's try another method. Construct the basic diagram ABCDE as in Fig. 12. Draw EF on an .8 leading power factor slant. Measure FH—it shows that by substituting 60 kw. in .8 leading power factor load for a like amount of .68 lagging power factor load that a standard commercial .8 leading power factor unit or units can be used to improve power factor and add 200 kw. load.

Fig. 14—There are several other ways of working out this problem. Try this: Construct the basic diagram ABCDE as in Fig. 12. Draw FGE to represent a 200 kw. .8 leading power factor synchronous motor load. Measure CF which shows 100 lagging reactive kv-a. to be neutralized. Apply a 100 kw. capacitor (static condenser) to make the necessary improvements.

Some of the other expedients to investigate would be:

(a) Substitution of unity power factor loads for equal amounts of .68 loads and add 200 kw. in unity or leading loads.

(b) Substitute .8 synchronous motor loads for an equal amount of .68 load and finish out with 200 kw. unity power factor load.

(c) Use capacitors or synchronous condensers for part way improvement and add unity power factor load to finish.

Materials Testing Committee Report*

In 1924 the Technical Association published a pamphlet entitled "Standard Methods for Testing Materials" which included methods for analysis of thirty different materials. The program on which the materials testing committee has been working during 1931 was a careful study of the methods in this pamphlet with a view to revising them, bringing them up to date and presenting them to the Association for adoption as tentative official methods. In the course of the work it was considered advisable to prepare several methods covering general procedures to avoid duplication and repetition in the methods for analysis of specific substances. Four general methods have been prepared and submitted to the secretary for publication as follows:

(1) Calibration of Volumetric Glassware and Analytical Weights.
(2) Preparation of Liquid Reagents.
(3) Preparation and Standardization of Volumetric Solutions.
(4) Indicators for Volumetric Analyses.

In addition to these, thirteen specific methods have been prepared and submitted to the secretary, of which the first seven have already been published, as follows:

(1) Determination of Pitch in Pulp.[1]
(2) Analysis of Formaldehyde.[2]
(3) Analysis of Gasoline.[3]
(4) Analysis of Bisulphite Liquor.[3]
(5) Sampling and Analysis of Coal.[4]
(6) Analysis of Sulphur-Burner Gas.[5]
(7) Analysis of Sulphuric Acid.[5]
(8) Analysis of Caustic Soda.
(9) Analysis of Mineral Fillers (1) General Tests.
(10) Analysis of Mineral Fillers (2) Clay.
(11) Analysis of Mineral Fillers (3) Calcium Sulfate.
(12) Analysis of Casein.
(13) Analysis of Bleach, Bleach Liquor and Bleach Sludge.

Most of the remaining methods originally published in the pamphlet of 1924 have been assigned to various members of the committee for study and revision and it is hoped to complete a substantial proportion of them during the coming year. The subjects under consideration are as follows:

(1) Alum, (2) Aniline Dyes and Pigment Colors, (3) Glue, (4) Lime, (5) Limestone, (6) Rosin, (7) Rosin Size, (8) Soda Ash, (9) Sodium Silicate, (10) Sulphur, (11) Starch and Starch Products and (12) Water.

It is felt that these methods should have first consideration. The committee also has the following tentative list of subjects for future consideration:

(1) Salt Cake, (2) Black Ash, (3) Black Liquor, (4) Mineral Fillers (4) Talc and Asbestos, (5) Mineral Fillers (5) Blanc Fixe, (6) Mineral Fillers (6) Satin White, (7) Sulfate Cooking Liquor, (8) Greases, (9) Lubricating Oils and (10) Inks.

The chairman would welcome suggestions and criticisms of methods already published and suggestions for methods which should be added to the committee's list for future work. It is realized that improvements in analytical procedures are constantly being made and the committee would welcome correspondence calling attention to new methods and improvements in existing methods.

In preparing methods for adoption as official by the association, the committee has pursued a policy governed by the following considerations:

(1) The purpose of official methods is to set forth and describe in detail methods of testing or chemical analysis which will be recognized as official in settling disputes or disagreements and in determining the true quality of materials.

(2) To accomplish the desired results an official method must have the following characteristics:

(a) It must be capable of giving results of a degree of accuracy sufficient for the purpose in question.

(b) It must be capable of giving consistent results in the hands of different operators.

(c) The method must be practical and not consume an inordinate amount of time in its operation.

(d) It should not require unduly expensive or complicated apparatus unless satisfactory results can be obtained in no other way.

(3) It is realized that so-called official methods may not always be suitable for routine analyses or mill control tests. In many such cases speed is more important than extreme accuracy. The Committee hopes at some future date to give consideration to rapid control tests. It is felt, however, that it is of prime importance first to develop a comprehensive set of accurate official methods. It should not be difficult for individual mill chemists to adapt simpler control tests suitable for their particular purpose.

(4) The committee does not consider that it is within its province to develop specifications to accompany the methods. In some instances, however, there are generally recognized specifications which are applicable and in these cases it is believed their inclusion adds to the value and usefulness of the methods to chemists in the industry.

ROGER C. GRIFFIN, Chairman,
Director of Tests, Arthur D. Little, Inc.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932.
[1] Paper Trade Journal, Dec. 31, 1931.
[2] Ibid Nov. 26, 1931.
[3] ibid Dec. 24, 1931.
[4] ibid Jan. 7, 1932.
[5] Ibid Dec. 17, 1931.

Deinking of Book and Magazine Stock*

By H. A. Morrison[1]

A large tonnage of old magazine paper is annually reclaimed in the United States and used as a major constituent in book and magazine papers. The importance of this reclaimed stock may be visioned when it is said that in one center alone about 225 tons of recovered book pulp are produced daily.

An examination of equipment and methods in use at various mills reveals that, although the raw material and the finished product are generally the same or nearly identical, experience has failed to develop any standard system or any complete flow sheet which is generally recognized as being the best.

It is hoped that the interest of all who are engaged in this phase of the industry can be directed toward this comparatively simple problem and a standard flow sheet thus worked out. Such a method should combine the best features of present units, both as to process and equipment.

In this article, the term deinking is used to designate the entire recovery process. It includes sorting, dusting, cooking, defibering, removal of carbon, casein and all undesired materials, riffling, screening, bleaching and bleach washing.

Our study indicates that the ideal standard arrangement of approved apparatus, each step to logically follow the one before, will reduce losses of both fiber and filler, decrease power, steam, and labor costs, and produce finished pulp of better and more uniform quality.

Shrinkage Averages

In an average well operated plant deinking losses may be summarized as follows:

Moisture	= 5.0 per cent		
Throw outs	= 2.0 per cent		
Dusting	= 0.5 per cent		
Screening and riffling	= 2.5 per cent		
Deinking	= 13.0 per cent	80 per cent mineral substances (mainly clay)	
		20 per cent organic materials	15% fiber, 5% non-fibrous
Bleach washing	= 2.0 per cent	80 per cent fiber	
		20 per cent filler	
Total	25.0 per cent		

It is evident that the first three items, amounting to 7.5 per cent, represent losses difficult to reduce without lowering the quality of the finished pulp.

Losses in screening and riffling represent mainly the removal of paper clips, buttons and rubber together with strings, rags, rope and like material. However, some mills fail to completely defiber the old paper, with consequent rejection of valuable fiber at the screens and riffles. However, the possibilities of improvement in this step are mainly those of better cleaning and decreased labor and maintenance rather than prevention of loss. We believe that final screening should follow rather than precede bleaching.

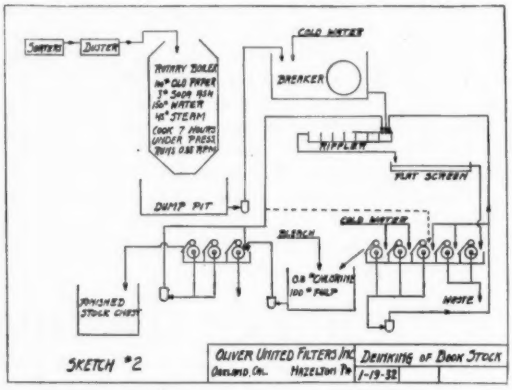

FIG. 2

The following steps, removal of carbon and color, elimination of saponified oil and grease, and washing away of bleach reaction products, ordinarily involve a total shrinkage of 15 per cent, equivalent to 300 pounds per ton.

Normal fiber loss in these two washing processes, according to our table is 71 pounds (= 3.55 per cent) per ton of old paper, while losses of filler amount to 216 pounds per ton of old paper (= 10.8 per cent) and non-fibrous material amounts to 13 pounds (= 0.65 per cent).

At the present low price levels, clay at $16.00 per ton and finished pulp at $40.00 per ton, loss of clay = $172.80 and fiber = $124.25 in a 100 ton plant — total daily loss reaching $297.05. Thus shrinkage of valuable solids = $2.97 per ton of old paper or $3.97 per ton finished pulp.

Flow Sheets

Figs. 1 and 2 represent existing plants. In Fig. 1 cooking is carried on at low consistency, centrifugal pumps being used to circulate and disintegrate the paper. In Fig. 2 the pulp is cooked at high density in closed rotary cookers and then defibered in breaker beaters.

Fig. 2-A shows centrifugal pumps used to defiber the stock after cooking in rotaries.

The relative advantages of the two cooking methods, comparisons of soda and steam consumption and quality of product in each case, have been ably handled in other papers[2] and need not be treated in detail here.

It is believed that low density cooking produces better and whiter stock, and that the chief drawback as against cooking under pressure and at high density is the greater steam demand of the low consistency system. If it is found possible to conserve and utilize the heat units now lost in the hot water leaving the cookers on Fig. 1, then that cooking system will eventually become standard.

In Fig. 3 is shown a development of Fig. 1 with an Oliver

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* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932.
Contribution of the TAPPI alkaline pulping committee.

[1] Assoc. Member TAPPI, engineer, Oliver United Filters Co., Chicago, Ill.

[2] Steam Requirements of the Deinking Process, by E. G. Milham, PAPER TRADE JOURNAL, Oct. 1, 1931.

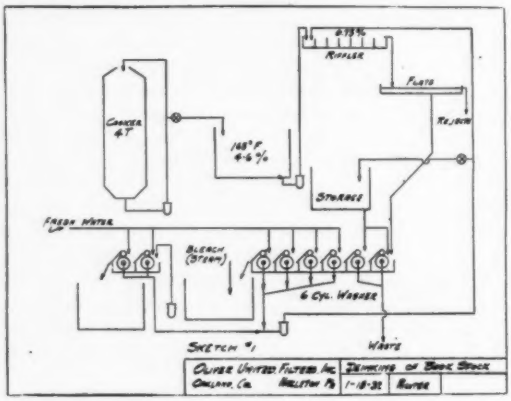

FIG. 1

filter employed to effect the initial deinking wash. Hot water thus recovered passes through a heat interchanger, possibly Stickle type, and heats clean cold water. The effluent, minus a large proportion of its heat but containing carbon, soluble impurities, very little fiber and small amounts of filler, goes direct to waste from the heat interchanger.

Operation of the heat transfer unit presents some difficulty. Gelatinous lime carbonate, formed during the cooking process, and carried in solution because carbon dioxide is contained in the solution, will tend to deposit on the walls of the interchanger. It is believed that this difficulty can be overcome or at least minimized by use of nickel-chrome alloys, instead of steel, and cast iron. It is evident that the heat transfer element should be easily accessible for cleaning and of materials that are chemically resistant to dilute acid (HCl) solutions. Periodic treatment with 5 per cent HCl will readily remove lime carbonate deposits.

To remove coarse solids from the hot pulp such as rags, strings, splinters of wood, etc., it is proposed to employ the bar screen as developed by the Dorr Company, Inc., and widely used for similar duty in municipal sewage plants.

In Fig. 4 the plan includes the changes suggested in Fig. 3 and to these are added final deinking of the pulp in hot water and at consistency not below 3 per cent. The advantages of washing in hot water are well known, a cleaner and whiter pulp results.

Note that bleaching precedes riffling and screening and that an Oliver is used as a bleach washer. Pulp from this filter is free of bleach and enters stock chests at uniform consistency ready for the beaters or mixing system of the paper mill.

On the right, in Fig. 4, a second Oliver filter is shown as optional instead of the four cylinder Woods thickener. If this second Oliver is used, probably the stock should be thinned to 1 per cent, put over a coarse flat screen (10 cut) and then over the filter. Water washing with sprays, preferably hot water, should be applied to the sheet. Stock from either the filter or the Woods washer passes direct to the bleaching tank. Water from this washer goes to waste, if a filter is used.

Water from the Oliver bleach washer is suitable for thinning ahead of the second Oliver deinking washer. On non-sheet forming washers, this water should be returned as indicated on Fig. 4.

We show the rifflers and screens after instead of before the bleaching step because traces of chlorine keep the riffler and screen free from slime. Finer screens can then be used and little or no manual cleaning is required. This is an important improvement, as at present screening in most mills is done prior to carbon removal, as on Fig. 2.

Fig. 5 shows hot water from the heater being returned to the deinking washer instead of sent to the cooker. Washing in hot water is of known advantage. It does a better job and improves the final color of the stock. If so used, steam economy is sacrificed. The gain in finished stock value because of hot water washing is admittedly small, estimated at 20 to 30 cents per ton.

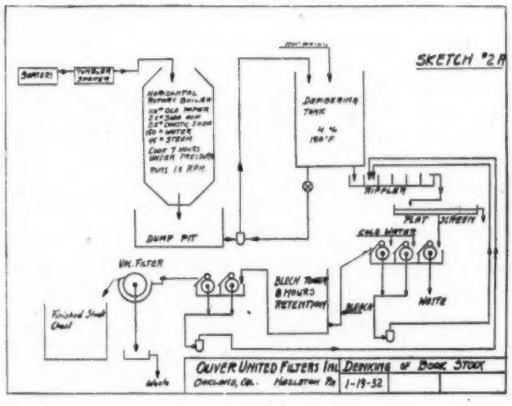

FIG. 2A

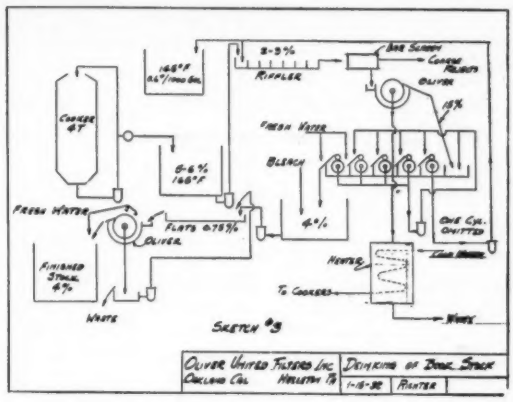

FIG. 3

Various other flow sheets in addition to those given here, have been suggested, but all of these could not be included because of space limitations.

It is to be understood that cooking at high consistency (35 to 40 percent) produces first class pulp. In such a system, the stock must be defibered as a separate step. The indicated use of filters for deinking and for bleach washing as applied to low density cooking (4 to 6 per cent), applies also to a mill which cooks in rotaries or in beaters.

Someone has suggested the use of the tumbling digester, used in many kraft mills, for cooking and partly defibering old paper. This would insure good circulation and shorter cooking time.

Hot Water Recovery

The following tables and discussion cover Oliver performance, when the filter is used primarily to remove hot water from the cooked and defibered old paper:

TABLE 1

	1	2	3	4	5	6
Time run, minutes	60	35	105	120	120	120
Wire cloth cover used, mesh	40	40	40	40	40	30
Drum speed, sec. per rev.	70	70	70	50	50	50
Feed consistency, per cent bone dry	3.6	4.0	4.36	4.2	4.54	4.0
Cake consistency, per cent bone dry	9.10	10.5	9.8	14.87	14.76	11.28
Feed temperature, deg. F.	127	138	156	151	158	162
Filtrate temperature, deg. F.	115	118	148	147	146	150
Filtrate flow, g. p. m.	2.55	2.25	3	3	3	2.7
Filtrate consistency, pounds per 1,000 gals.	0.7	.....	.....	.....	0.49	.....
Wet cake produced, pounds	673	209	1650	923	829	946
Bone dry cake produced, pounds	61.25	21.9	161.88	137.25	131.27	106.7

The more detailed information contained in Table 1, has been simplified in Table 2, to show the unit data and to give a more clear idea of what the test work really represented.

In column No. 7, you will find the averages of the preceding 6 tests and we call your attention to the figure of 514 pounds of bone dry stock per square foot per 24 hours and to a recovery of 1749 B.t.u. per bone dry pound of stock filtered.

In considering the heat units recovered, you are to understand that our calculations are based on the assumption that the process water at the mill normally enters at 60 deg. F. It is doubtless true that during the winter months the temperature is very much lower than 60 degrees.

TABLE 2

	1	2	3	4	5	6	Averages 7
Filter cloth area in square feet	3	3	3	3	3	3	3
Pulp cake, lbs. bone dry sq. ft. day....	480	325	738	589	525	426	514
Filtrate, g.p.m. sq. ft.	0.85	0.75	1	1	1	0.9	0.91
Filtrate, gals. sq. ft. 24 hours 1224		1080	1440	1440	1440	1286	1320
Filtrate, gals. per pound bone dry pulp	2.55	3.3	1.9	2.45	2.75	3	2.66
Filtrate, gals. per ton bone dry 5100		6600	3800	4900	5500	6000	5316
B.t.u. per bone dry pound basis 60 deg. F. (Normal) 1155		2120	1280	1740	1960	2240	1949

We found that the Oliver operated extremely well and discharged the stock at 15 per cent bone dry. The filtrate contained less than one pound total solids, this including clay, and we consider that for best operation, the density of stock to the Oliver should be at not more than 3 per cent, although the filter successfully handled stock at 4½ per cent bone dry.

With regard to the heat units recovered, our calculations are based upon the assumption that the temperature of the water is 85 to 90 degrees above that of water as brought into the mill and based upon the volume and temperatures shown on recovered water in the above tables, the available heat units in this water, would correspond to 14.7 tons of coal from cooking 100 tons of old book stock. The coal heat value is based on the assumption that 1 pound of coal is equivalent to 12,000 B.t.u.

Color of Stock

It was noted that the stock leaving the Oliver was about the same color as stock leaving the first cylinder of a deinking washer. Evidently a considerable proportion of the carbon was removed with the hot water and it is our opinion that with an Oliver in the system as shown on the sketch, that you could then discontinue wasting the effluent water from the first two cylinders of the washing machines and not find it necessary to waste more than the water from one of these cylinders. You will readily understand that if this proves possible, there will be a reduction of approximately 50 per cent in the fiber shrinkage during the washing operation.

It is believed by us that operation of an Oliver ahead of your deinking and screening system, would greatly increase the efficiency of both operations, since the Oliver will remove the greater part of the dissolved materials, which in our opinion, are precipitated when the water is cooled for riffling and screening and it is our opinion that these precipitated solids seriously interfere with operation of both the flat screen and the deinking washers.

Deinking at High Consistency

One mill uses a so-called Viking washer, keeping the stock always above 3 per cent and fairly hot. Fiber losses are below average and the finished pulp is of the highest quality. This washer consists of 8 hexagonal revolving reels in series.

Wood washers in series (3-6) would do similar work.

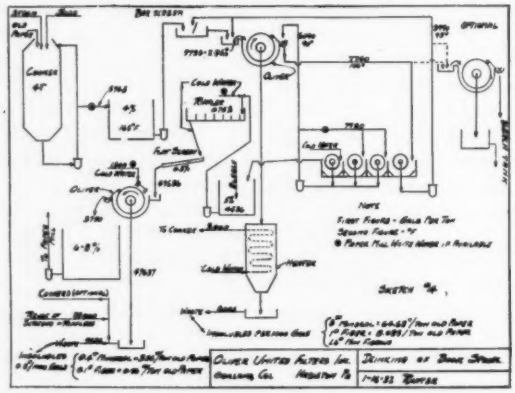

FIG. 4

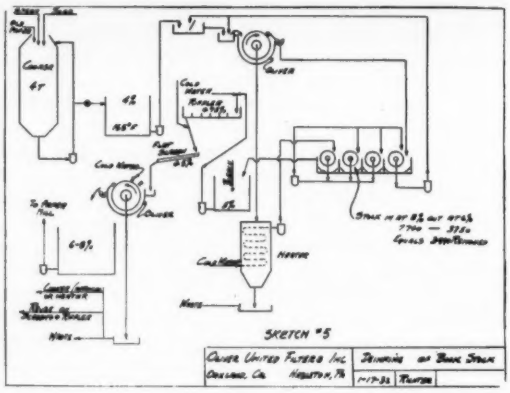

FIG. 5

Riffling

Horizontal rifflers of conventional type are in general use. The stock must be below 1 per cent and the velocity of flow not over 60 feet per minute for best removal of foreign materials of high specific gravity such as fine sand, buttons, paper clips and rubber.

One mill uses a so-called "pin catcher" instead of a horizontal riffler of the usual design[2]. This is essentially a vertical two-way spout 12-14 feet long. The thin stream of pulp (below 1%) falls vertically about 12 feet, passes under a partition and flows up the other side. Removal of heavy foreign material is improved by building the pin catcher of greater cross section on the rising side. The collected solids may be removed by a revolving cage valve, as required, without draining the pin catcher.

Screening

Flat screens are almost universally used. Lack of an efficient thickener (such as a vacuum filter) causes many mills to operate screens at greater than desirable consistency.

Best results are obtained by screening both before and after washing, although the great majority of plants screen but once.

Cooking Reagents

Soda ash, about 60 pounds per ton of paper, is used alone in most cases on old book papers.

When the paper is ledger, containing much size or is for any reason difficult to cook, a limited amount of caustic, 10 to 15 pounds per ton of paper, is used in addition to about 50 pounds of soda ash.

Other chemical compounds, such as trisodium phosphate, have been considered, but their cost is prohibitive.

Much work has been done with the object of perfecting a "washable" ink, in which the carbon of printing ink is replaced by dyes which are readily washed out or bleached to colorless soluble compounds. Establishment of the use of such an ink would revolutionize the deinking industry, but this does not seem imminent in the printing of books and magazines.

[2] "Deinking Waste Paper Stock," by C. A. Shubert. PAPER TRADE JOURNAL Sept. 24, 1931.

Density of High Grade Weld Metal and Plate

Metal	Density Minimum	Density Maximum	Density Average	Porosity Per Cent. Voids
Firebox plate.....	7.80	7.85	7.85—	Neg.
Bare elec. weld metal.....	7.44	7.68	7.59	3.30
High grade weld metal.....	7.83	7.85	7.84	0.12

The Babcock & Wilcox Co.

Tearing Test For Paper *

Proposed Revision of the Official Standard Method of the Technical Association of the Pulp and Paper Industry

I. Apparatus

The testing apparatus to consist of a stationary jaw, a moveable jaw carried on a pendulum formed by a sector of a circle and which is free to swing on a ball or other substantially frictionless bearing, means for holding the sector in a position with its right hand side substantially vertical, means for instantaneously releasing it and means, preferably a pointer mounted on a bearing affixed to the sector and concentric with its point of suspension and sufficiently long to abut against a fixed stop, for registering the maximum arc through which the sector swings when so released. The sector is to carry a scale, graduated from 0 to 100 grams so as to read against the pointer the work done in gram centimeters by the sector when tearing a specimen of paper, divided by 137.6 cms. With the pendulum in its initial position ready for a test, the two jaws are to be separated by an interval of 3 m.m. (0.12 inch) and in line so that the specimen clamped in them lies in a plane perpendicular to the plane of oscillation of the pendulum, with the edges of the jaws gripping the paper in a horizontal line, a perpendicular to which through the axis of suspension of the pendulum is 104 m.m. (4 inches) long and makes an angle of 27.5 degrees with the plane of the paper. The clamping surface in each jaw is to be over 25 m.m. (1 inch) wide and over 12 m.m. (½ inch) deep.

II. Specimens

Specimens for the test are to be selected from a sample secured by the official method so as to be representative of it and are to be cut accurately in each principal direction of the paper, 50 m.m. (2 inches) wide and of such length that the paper, when placed in the jaws, extends exactly 43 m.m. (1.69 inches) above the apex of an initial slit which is made half way between the two jaws and which extends from the lower edge of the specimen to a distance of 4 m.m. (0.16 inch) above the top of the jaws.

III. Method

The specimens or samples for the tests are to be conditioned according to the official method. After ascertaining that the instrument is leveled and adjusted, enough sheets are to be torn at one time so that the scale readings are, if possible, between 20 and 40 grams and the number of sheets so used recorded.

Each test specimen is to be placed midway in the jaws so that its upper edge is parallel to the top of the jaws and the initial slit effected with a sharp knife at right angles to the top of the jaws.

Readings obtained where the tear deviates more than 5 m.m. (.02 inch) away from the line of the initial slit are to be rejected.

Not less than five tests are to be made in each principal direction of the paper or as many more as are necessary so that the average of the maximum and minimum readings is within 5 per cent of the average of all the readings. An isolated very high or low reading for which there is no corresponding reading to fulfill this requirement after five further readings should be rejected.

IV. Adjustment

A pencil line is drawn 1 inch to the right of the edge of the sector stop. With the sector raised to its initial position and the pointer set against its stop, on releasing the sector and holding the stop down, the sector should make at least 12 complete oscillations before the right hand edge of the sector no longer passes to the left of the pencil line, otherwise the bearing should be oiled and adjusted.

The instrument is to be leveled so that with the sector free, the line on the sector indicating the vertical from the point of suspension is to coincide with a corresponding point on the base of the instrument, usually placed on the stop mechanism. After leveling, the instrument should be operated several times with nothing in the jaws, the movable jaw being closed, to ascertain if the pointer registers zero with no load. If zero is not registered, set the pointer at the zero reading on the scale before releasing the sector and after release see that the pointer is not pushed more than 3 gram divisions beyond the zero. A reading of more than 3 grams indicates excessive pointer friction and the pointer should be removed, the bearing wiped clean, and a trace of oil or petroleum jelly applied. When the pointer friction has been reduced and the zero reading is still not indicated, the pointer stop should be suitably adjusted until the zero reading is obtained.

V. Calibration

It is seldom necessary to repeat the calibration of the instrument provided it is kept in adjustment and no parts become changed or worn. The calibration is performed as follows:

The instrument is leveled and adjusted on a level sheet of plate glass and a known weight "W" grams, the center of gravity of which is marked with a punched dot, is clamped to the radial edge of the sector beneath the jaws. The sector is raised and set as for proceeding with a tearing test and by means of a surface gauge or other convenient means, the height of the center of gravity of the weight above the glass plane is measured = "h" cms. The sector is then released, allowed to swing and the pointer reading noted. Without touching the pointer the sector is raised until the edge of the pointer just meets with its stop in which position the height of the center of gravity of the weight above the glass plate is again determined = "H" cms.

The work done = W (H-h) gram centimeters.

The pointer reading for the standard instrument and method specified should read $\frac{W\,(H-h)}{137.6}$ grams.

A range of five weights from about 75 to 400 grams will be found suitable when clamped on the edge of the sector in different positions and if necessary two or more weights can be used at the same time, the work done in raising each being calculated and added together.

VI. Reporting Results

The results are to be reported in grams force to tear a single sheet to the nearest one gram, by multiplying the average instrument reading (corrected if necessary for calibration error) by 16 and dividing by the number of sheets torn at one time. The average and maximum and minimum tearing strengths for both principal directions of the paper are to be recorded and also the number of sheets torn at one time.

Chemical Composition of High Grade Weld Metal

Element	High Grade Weld Metal	Ordinary Arc Weld Metal
Silicon	Less than 0.100 %	Nil
Sulphur	Less than 0.045 %	Less than 0.045 %
Phosphorus	Less than 0.040 %	Less than 0.040 %
Manganese	0.300 to 0.600 %	Less than 0.200 %
Carbon	0.080 to 0.150 %	0.020 to 0.080 %
Nitrogen	Less than 0.020 %	0.100 to 0.140 %

The Babcock & Wilcox Co.

* This method is based on the information given in the paper by James d'A. Clark on "Calibration of the Elmendorf Tearing Tester," published in the Paper Trade Journal, January 7, 1932.

Determination of Methoxyl Groups in Wood or Pulp*

Tentative Official Standard Method of the Technical Association of the Pulp and Paper Industry

I. Apparatus

The apparatus shown in Figure 1 is used for the determination of the methoxyl groups. It consists of a 50 cc. flask (B) connected by a ground-glass connection to a condenser the top of which forms a trap (D) which contains a water suspension of red phosphorous sufficient to well cover the end of the trap. At the upper end of the trap a glass tube is sealed on, leading to a series of two bubble flasks (E). All connections are ground glass.

A preheater (X) is connected to the condenser jacket, as shown, to bring the condenser to the proper temperature.

A source of dry, pure CO_2 is connected to flask B.

II. Specimen

The specimen shall consist of about 0.3 gram of oven-dry sawdust or 0.5 gram oven-dry pulp.

III. Method

The methoxyl groups are determined according to the well-known method of Zeisel. The substance to be examined is heated together with hydriodic acid, whereby methyl iodide is formed. The methyl iodide is swept from the reaction flask by a current of CO_2 into vessels containing an alcoholic N/10 silver nitrate solution, the methyl iodide being decomposed with the formation of silver iodide.

Approximately 0.3 gram of oven-dry sawdust or 0.5 gram of pulp are weighed into the digestion flask (B) and 15 cc. of redistilled hydriodic acid (sp. gr. 1.70) is added. The reaction flask is heated in a glycerine bath at 130° C.

The temperature of the water in the condenser, used in this apparatus, is maintained at 45—55 deg. C. by means of the preheater (X) through which water is kept flowing constantly by being connected to a water tap.

The methyl iodide is absorbed in 35 cc. of $AgNO_3$ solution placed in the absorption apparatus (E). A current of dry CO_2 gas, is passed through the apparatus at a rate of 60 bubbles per minute. The heating is continued until the silver nitrate solution, at first milky, has become perfectly clear. This requires 15 minutes to 2 hours. The contents of the absorption bulb are washed into a beaker, made up to 200 cc., 10 cc. of concentrated nitric acid are added and the mixture gently boiled for at least 15 minutes. After cooling this mixture is filtered on a tared Gooch filter. The precipitate is washed and dried for 1½ hours at 105 deg. c., cooled in a desiccator and weighed as silver iodide.

Calculation:

$$\text{Per cent methoxyl} = 13.2 \times \frac{\text{Weight Ag I}}{\text{Weight sample}}$$

IV. Report

The data shall be reported as a percentage of the oven-dry weight of the sample used.

V. Solutions

PREPARATION OF SILVER NITRATE: The silver nitrate solution is prepared by dissolving 17 grams of the chemically pure salt in 50 cc. of distilled water and making up to a liter with previously purified 95 per cent ethyl alcohol. The aldehydes are removed from the alcohol as follows: Dissolve 1.5 grams of silver nitrate in 3 cc. of distilled water and add to 1 liter of 95 per cent ethyl alcohol and shake well. Dissolve 3 grams of sodium hydroxide in about 15 cc. of 95 per cent ethyl alcohol. Warm the alcohol solution gently, cool and add to the main solution. Shake the mixture well, allow to settle for several days, siphon off the clear solution and distill, adding a piece of pumice to keep the liquid from bumping.

TREATMENT OF THE HYDRIODIC ACID: If the acid as purchased is not water-white and of sufficient specific gravity (1.7) it must be redistilled. The acid is placed in a distillation flask and a few grams of red phosphorous added. The sides of the flask are protected from over-heating by setting the flask on a piece of asbestos which has a hole cut in the center sufficiently large to permit heating of only the liquid in the flask. The distillate coming over between 124-130 deg. C. is collected and stored in a glass-stoppered brown bottle.

VI. References

Zeisel; Monatsh, 6, 989 (1885); 7, 406 (1886).
R. J. Manning & M. Nierenstein, Ber. 46, 3983 (1913).
Fritz Weishut, Monatsh, 33, 1165-12 (1912.
A. Klemene, Monatsh, 34, 901-12 (1913).
Benedict and Bamberger, Monatsh, 15, 509 (1894).

* To be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932. Written discussion should be sent to R. G. Macdonald, 370 Lexington Ave., New York, N. Y.

Contribution of the TAPPI pulp testing committee.

Note: This method has been arranged by Paul S. Billington, junior chemist, U. S. Forest Products Laboratory, Madison, Wis., and is Method No. 43 in series of chemical analyses of pulp and pulp woods as used at the Forest Products Laboratory (Paper Trade Journal, Dec. 20, 1928), compiled by Mark W. Bray.

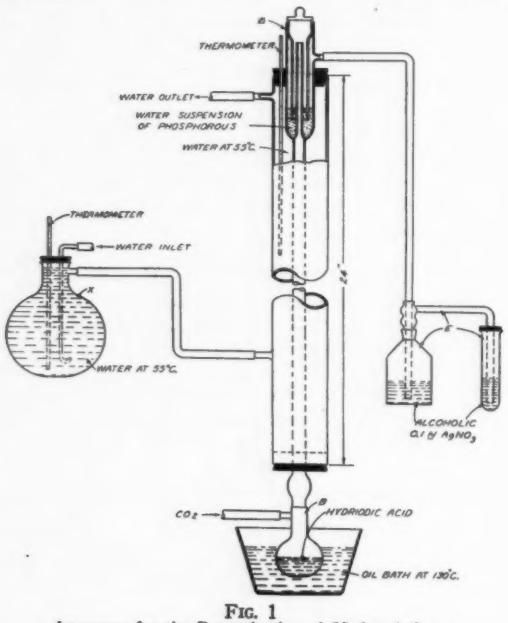

FIG. 1
Apparatus for the Determination of Methoxyl Group.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by Thomas J. Burke C. A. Director Cost Dept.

Pulp Manufacturing Costs*

By Thomas J. Burke[1]

As my time is short, I want to say first, that as head of the Cost Department, I shall be glad of an opportunity to work with all mills manufacturing pulp for the purpose of drawing up a uniform method of compiling pulp costs. During the past two days the Cost Department has been holding sessions at which we have drawn up a complete classification of accounts, which we believe will meet the requirements of all mills. That is the basic thing, to classify your accounts so that you are all charging the same items into the same accounts, for only in that way can you get worthwhile comparisons.

We have also been studying other accounting problems affecting pulp costs such as the method that can be used for the distribution of overhead costs as well as indirect manufacturing costs. I believe those of you not represented at those meetings, will be interested in receiving the material that will be sent you later.

Naturally, I know a good deal about the cost methods of the different mills also I know very well A. M. Van Douser, Assistant Secretary and Treasurer of the Marathon Paper Mills Company, Clark Everest's mill as you know, I believe their system of compiling pulp costs is about as good as any I know of, so I wrote Van asking him to help me in this matter and he came through like the gentleman he is, by practically writing my talk for me.

Here is what they are doing to get correct costs on their sulphite pulp production. All costs are compiled and tabulated on NINE operating schedules, but perhaps I had better start with the inventories and work up. Here is how they handle their inventories and I believe they are in accord, with the best practice in the industry.

Inventories

WOOD:

When wood is received in the yard and put in storage it is piled in skidways of approximately one half million feet. Sixteen foot logs and twelve foot wood may be piled together, but a very accurate record is kept of all material in each pile and section of the yard. When this wood is used, it is scaled out and any differences in scale are adjusted at the end of each month for all piles used during the month.

SULPHUR:

They have four separate storage bins for sulphur each containing less than a month's supply so that it is always possible to use one bin out during the month. Sulphur is weighed as it is taken to the burner and any differences are adjusted at the end of the month.

LIMESTONE:

Limestone is kept in two separate piles and they adjust this just as often as possible and by watching it carefully, have not had very large adjustments at any time.

LIMESTONE AND CHLORINE:

The quantities in storage of both these materials are small and as the lime is in bags, it can easily be inventoried and as the chlorine is all carried in tank car storage, such chlorine can be easily inventoried.

WORK IN PROCESS:

Chips, acids and bleaching liquors in process are inventoried monthly and in the case of chips a separate inventory is kept from the logs and wood, but in the case of sulphur, limestone, lime and chlorine, the amount of these materials in the chemicals is added to the raw material inventories. Inventories are kept of pulp produced and include pulps in blowpits, tanks and on the floor.

Mill Reports

WOODS DEPARTMENT:

Logs and wood used in the mill are scaled and reported daily by a regular scaler. The form used called the "Woodroom Daily Scale Report" is divided into two sections, providing for a report of logs scaled on cars and one of pulpwood scaled on cars. The former has columns headed "Car number", "Kind", "Pieces", "Feet", "From", and "Remarks", also provides space for scaler's initials; in the latter report the headings "pieces" and "feet" are changed to "length" and "cords". Thus they get an accurate daily check on logs and wood used.

ACID PLANT:

It is interesting to note in this department their daily report besides being used for a record of operations and materials consumed is also used as a basis for a *bonus*, which is paid for production in excess of a standard production per man-hour with penalties for production below standard. It provides spaces for reporting about quality of acid, gases, water, temperature also of course, sulphur and limestone used. Although these reports are made up by the acid-makers themselves all tests are periodically verified each day by the laboratory.

DIGESTERS AND SCREENS:

They have devised a very complete pulp report, which is made out in triplicate, one copy for the general office,

(*Address delivered at February Convention 1932, American Paper & Pulp Association)

[1]Director, Cost Department, American Paper & Pulp Association.

one for the superintendent and one being retained at pulp mill office. On this form, space is provided for recording kind and condition of wood, whether rough, peeled, dry, green, frozen, how scaled (as logs or wood) and sawdust and slivers in chips; necessary cooking records in figures and in graph; also quality and condition of pulp. The report of sawdust, slivers, quality etc. is furnished by the laboratory control division.

In addition to this form, they also prepare a summary of the above information, which is filed in the superintendent's office and used as a basis for the technical control records as well as for determining bonus amounts. In this department a bonus is also paid on each individual cook, being based on production with penalties for pulp not up to standard for strength, cleanliness, color and bleachability. I remember when I called at the Marathon Mill this summer, discussing the result of this bonus and particularly with regard to training men to shut off the steam at the psychological moment.

BLEACH DEPARTMENT:

Two forms are used in this department, viz: "Bleach Liquor Room Daily Report for recording quantities of bleach powder, lime and liquid chlorine used and amount of bleach liquor produced, also the "Bleach Room Report" signed by Bleacherman and Drawermen, giving details of all stock used, time filled and dumped, temperatures, etc. and quantity and quality of pulp bleached.

WET MACHINE DEPARTMENT:

The "Wet Room Daily Operating Report" is made out by the foreman and is headed "Machine" No., Tour Ran, Machine Shut down (hours and cause), ordinary laps (hours and kind of stock), same for Pressed laps, Deckers (number, Time run, digester number, cock number) and Digester, Run Out, (times started and finished). The report also calls for data re level of stock in groundwood and decker tanks at end of shift in feet from "top".

It is used for determining the quantity of each kind of pulp put over the wet machine, on which basis costs are pro-rated. It is made out in duplicate, one going to the superintendent and the other to the office.

DAILY INVENTORY REPORT:

A "Daily Wet Room Inventory" report is made in triplicate for Paper Mill Superintendent, Purchasing Department, and Chemist, who compiles it after testing pulps produced, purchased and used.

TECHNICAL CONTROL DEPARTMENT:

This department compiles four reports as follows:

1—On quality of pulp produced. It provides for data as to cleanliness, chip moisture content, chip screen test and pulp strength.

2—A "strength" chart. It shows the beating time and per cent—Mullen Strength.

3—White water report showing losses based on pounds AD solids per 1000 gallons and volume in gallons per day. It also shows total stock reclaimed on wet machines.

This is an important report made daily, one copy to superintendent, two copies for general office and one for engineering department. Losses are shown in dollars and cents which bring them very forcibly to the attention of both the management and superintendent. It has assisted very materially in reducing losses from this cause.

4—Central Technical Report. This is a cumulative summary of reports of several departments, compiled in the superintendents office under the direction of the technical director and provides a "measuring stick for their operating efficiency. The figures on this report are checked monthly with the "actual" figures by the Cost Department.

While some of the forms mentioned in this account of the mill reports used by the Marathon Mill are not used directly to provide information for compiling reports, all of them have a very direct bearing on the final cost figures.

Those are all the Mill Reports. All costs are compiled and tabulated on nine operating schedules:

1—Cost of Pulp Used and Sold. (Unbleached and Bleached)
2—Cost of Purchased Pulps Bleached and Used.
3—Cost of Operating Wet Machines.
4—Cost of Operating Bleach Plant.
5—Detail Cost of Pulp Used.
6—Cost of Operating Digesters and Screens.
7—Cost of Operating Acid Department.
8—Cost of Operating Wood Department.
9—Cost of Screenings Department.

In conclusion I want to say, that I have used this illustration of what one mill is doing to compile its pulp costs correctly to emphasize the belief I hold that proper technical control must precede correct cost control, which in its turn must precede proper profit control.

I want to finally say a good word for my accounting friends in the industry, who have so often been called for not compiling their cost figures correctly by pointing out, that all we can do when the necessary complete data is not available, is to estimate as closely as we can with the data we have available. As you know, estimates are likely to err, that's only human, so if you want really reliable costs you must establish really reliable technical control to provide the data on which such costs can be based.

May I add, that the cost department would be glad indeed of an opportunity to collect cost data quarterly for the pulp mills and that if you wish this to be done, I hope you will write me and make any suggestions or recommendations you may think desirable in connection with this suggestion.

C. G. Neidel Made Asst. Secretary

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 3, 1932—Charles G. Neidel of Hickory street, Springfield, was appointed assistant secretary to the company at a meeting of the stockholders of the American Writing Paper Company last week in New York City. He takes the office made vacant by the resignation of John T. Wolohan. He entered the employ of the company in 1919 as secretary to the sales manager and a year later was made assistant of papetrie sales and assistant to sales planning dept. In 1922 he was made manager of the export and government sales division and in 1929 made secretary to the president. He is a member of Roswell Lee Lodge Masons and De Soto Lodge Odd Fellows.

United Container Association to Meet

The regular bimonthly meeting of the United Container Association will be held at the French Lick Springs Hotel, French Lick, Ind., Monday and Tuesday, May 16 and 17.

Addresses will be delivered by W. E. Braithwaite, representing the Bureau of Standards, Department of Commerce, on the work of his department. Samuel Katz, president of the Gibraltar Corrugated Paper Company, Inc., will speak on "Cutting Container Costs" and Bruce Berckmans, manager, Ink Division of J. M. Huber, Inc., will address a special meeting opened to associate as well as regular members of the association on the subject of "Standardization and Uniformity of Inks for Container Printing."

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Hagerstown, Md.—The Security Paper Company, Inc., recently organized by Walter L. Bean, Bond Building, Washington, D. C., and associates, with offices at Security, Md., has taken over the former mill of the Antietam Paper Mills at Hagerstown. The new owner will remodel and improve the plant, and will use for the production of high-grade paper stocks for Government documents and similar service. It is proposed to begin operations in the near future.

Hoboken, N. J.—The Hinde & Dauch Paper Company, Decatur street, Sandusky, Ohio, manufacturer of corrugated paperboard and fiber boxes and containers, has engaged Otto Randolph, 53 West Jackson boulevard, Chicago, Ill., engineer, to prepare plans for proposed new mill at Hoboken, N. J., where company recently acquired a block of property bounded by Monroe, Madison, Ninth and Tenth streets, with total site approximating 200 x 700 feet. Plans will be filed at once for the new plant, and it is expected to begin construction in about sixty days. It will cost about $200,000, with equipment.

Baltimore, Md.—The Maryland Container Company, recently organized by R. R. Clow, Baltimore, and associates, has leased part of the building at Eutaw and West streets, and will occupy for a new plant for the manufacture of corrugated paperboard boxes and containers. It is proposed to have the unit ready for service at an early date. Large output will be arranged.

Kaukauna, Wis.—The Thilmany Pulp and Paper Company, Kaukauna, is concluding work on superstructure for its new one-story addition, and will proceed with roofing at early date. Contract for the latter has been let to the Winding Roofing Company, Milwaukee, Wis., while general contract is being carried out by the Permanent Construction Company, 735 North Water street, Milwaukee. The unit will be 135 x 200 feet, and will be given over to paper bag manufacture. It is scheduled to be ready for service at early date. Estimate of cost has not been announced.

Joliet, Ill.—The Prairie State Paper Mills, Inc., Joliet, recently formed to take over the former local mill of the Eagle Paper Company, has taken out a state charter under Illinois laws, with capital of $100,000. The incorporators are Herman J. Finder, David H. Greene and Albert Fox. The first noted will be president of the company, and Mr. Greene, general manager, as previously announced in these pages. The company is arranging for immediate operations at the plant.

Portland, Me.—Edgar Irish, Hartford, Me., operating lumber properties, and Alfred A. Montgomery, Portland, treasurer of a local savings bank, are at the head of a project to establish and operate a pulp and paper mill at Bay St. George, Newfoundland. A bill is now being considered by the Newfoundland House of Assembly, St. Johns, to provide a franchise for the development. A company will be organized to carry out the development, which will include a pulp and paper mill of about 500 tons daily capacity, electric power plant for service at the mill, and operations on a tract of about 1500 square miles of timberland in Labrador. The proposed mill site will be about 50 miles south of the plant of the International Paper Company at Corner Brook, N. F. The project is estimated to cost over $2,500,000, with equipment.

Sheboygan, Mich.—The Union Bag and Paper Corporation, New York and Sheboygan, has arranged for a change in capitalization from $20,000,000 to $6,000,000 and 200,000 shares of stock, no par value.

Buffalo, N. Y.—Fire recently damaged part of the warehouse and distributing unit of the Buffalo Waste Paper Company, 98 Terrace street. An official estimate of loss has not been announced. The damage will be replaced.

Erie, Pa.—The Hammermill Paper Company, East Lake road, is said to be arranging for construction of its proposed new mill addition, recently referred to in these columns, consisting of a one-story structure, 130 x 260 feet, reported to cost close to $100,000, with equipment. The company is operating at a good production schedule. It has recently secured an order for several million pounds of special paper for the F. W. Woolworth Company, New York, covering a 12 months' supply.

Peabody, Mass.—The United Tex Paper Company, recently organized with a capital of $100,000, is said to be planning operation of a plant in this vicinity for the manufacture of paper products. The new company is headed by Jacob Kaplan as president, and Charles H. White, 10 Howley street, Peabody, treasurer and company representative.

Los Angeles, Cal.—The Jaite Company, 245 North Fries avenue, Wilmington, Los Angeles, manufacturer of paper bags and containers, has begun construction of a new one and two-story plant at 880 D Street, Wilmington district, to be 180 x 210 feet. It will cost close to $60,000, with equipment. It is expected to have the unit ready for service in the near future. Company headquarters are at Jaite, Ohio.

New Companies

Chicago, Ill.—National Manifold Products Corporation, Room 606, 542 South Dearborn street, has been incorporated with a capital of $10,000, to manufacture and deal in carbon papers and kindred products. The incorporators are Fred J. Haw, Jr., George E. Stewart and Harry Peifer.

Brooklyn, N. Y.—The Dustproof Paper Bag Corporation has been incorporated with a nominal capital, to manufacture and deal in paper bags and containers. Com-

pany will be represented by Alexander B. Mutterperl, 26 Court street, Brooklyn, attorney.

Grand Rapids, Mich.—The Home Paper Products Company has been incorporated with a capital of $4,000, to deal in paper products of various kinds. The incorporators are T. C. Lammers, Leslie L. Davidson and Clifford A. Seys, 601 George L. Young Building, Grand Rapids.

Mount Vernon, Ind.—The Mount Vernon Strawboard Company has filed notice of company dissolution under state laws.

Newark, N. J.—The Clinton Hill Paper Company has been incorporated with a capital of 2500 shares of stock, no par value, to deal in paper goods of various kinds. The incorporators are Max Lempf, William K. Morris and Samuel Seidner, Irvington, N. J.

Chicago, Ill.—Paper Products Co., Inc., 605 South Dearborn street, has been incorporated with a capital of 1000 shares of stock, no par value, to manufacture and deal in paper goods. The incorporators are Carl B. Aplon and Harry J. Lurie, 33 North LaSalle street, Chicago. Last noted is representative.

New York, N. Y.—Borus Paper Corporation, Bronx, has been organized with a capital of $10,000, to deal in paper products of various kinds. The company is headed by Isaac and David S. Borus, 1064 Carroll place, Bronx, New York.

New York, N. Y.—The Imperial Bag and Paper Company, Inc., has been incorporated with a capital of 200 shares of stock, no par value, to manufacture and deal in paper bags and containers. The incorporators are Arthur A. Baker and Leo Brown, 135 William street, New York. Last noted, an attorney, will represent the company.

Los Angeles, Cal.—Fine Paper House, Inc., has been incorporated with a capital of 2500 shares of stock, no par value, to deal in fine paper goods of various kinds. The incorporators are W. H. Ballentine, H. M. Van Winkle and M. C. Montreuil. The company will be represented by O. G. Hoegstedt, Title Guarantee Building, Los Angeles.

Harrisburg, Pa.—The McClintock Corporation has been organized to deal in paper boxes and containers, and other paper goods. The company will be represented by E. Bruce Taylor, Harrisburg, attorney.

Oneida, N. Y.—The Utica Merchandising Company, Inc., has been incorporated with a capital of $20,000, to deal in bags and containers, and other paper goods of various kinds. The company is headed by Joseph Meyer, 2271 Eighty-third street, and Moses Meyer, 1530 51st street, both Brooklyn, N. Y. It will be represented by the Albany Service Company, 299 Broadway, New York.

Columbia, S. C.—The Gottleib Bag Company, Inc., has been incorporated with a capital of $15,000, to manufacture and deal in paper bags and containers, and kindred products. Louis A. Gottleib, Columbia, heads the company.

Rockford, Ill.—The Kaplan Envelope Company, 500 North Madison street, has been incorporated with a capital of 6000 shares of stock, no par value, to operate a local paper converting plant for the manufacture of envelopes and allied products. The incorporators are S. H. Kaplan, Theodore A. Larson and Becker Trest.

American Writing Retrenches

HOLYOKE, Mass., May 3, 1932—Further retrenchment was ordered locally in the American Writing Paper Company, Inc., Saturday when all the salaried employes were cut a further 10 per cent. Additional to this, twenty-five members of the various staffs in the organization were released. Much regret was expressed over this by the management, but in view of market and industrial conditions no other step was possible, it was intimated.

More Inquiries in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., May 2, 1932.—Virtually no change is seen in the paper market here during the past week. Demand is not what is desired, of course, but the volume will compare favorably with last year in most lines. Cooler weather during the last week served to delay any immediate demand for summer specialties, but this demand is certain to be good once the state gets any sort of real warm weather. Local distributors say they already have had numerous inquiries from widely scattered sources, but as yet, buying has not started. Stocks in retail hands are very low, there being little summer stuff carried over the winter. Jobbers have fair stocks on hand, sufficient at least to supply the first real call.

Kraft prices continue firm with indications for a strong price average for some time to come. Demand is not so heavy, though. The news print demand is weak. As an indication of general conditions in this section for news print, the largest paper in Indiana is coming out two and three days a week with only 24 pages. This is indicative of conditions with most of the dailies of the state, though the weeklies seem to be hammering along at about the same averages of a year ago.

Conditions in the fine paper field are quiet here. Prices are none too steady. Most serious in this field is the general lack of direct mail advertising on the part of some of those who formerly were the largest users. Book houses also are not taking extensive quantities which is another serious bar to improved demand.

Container factories in the state report a sluggish demand and there is very little production, though most of them plan to increase their schedules when warehouse stocks have been disposed of. Strawboard factories are operating about 50 per cent of the time, but are looking for a little more business than they had in 1931.

Building papers are slowly increasing. Inquiries are more plentiful than they were last year at this time.

Boston Paper Trade Happenings

BOSTON, Mass., May 2, 1932—Among the trades which have organized for the purpose of making jobs to relieve the unemployment situation in Boston are paper and printing. The committee for the paper trade consists of Fred D. Coobe,, of Whitney Brothers, Inc.; Matthew C. Callahan, of the Boston Mirror Company; and J. W. Tracy and Matthew Byrne, of Whitney Brothers.

Warren D. Thompson, of the Baird & Bartlett Company, dealers in box board, who underwent a major operation at Brooks House about three weeks ago, is expected to be at the office again in about two weeks.

Alex Forbes, sales promotion manager of the American Writing Paper Company, called on the Boston distributors of the company last week in the interests of American Egg Shell Text.

C. J. Kennery, of the service department of Arnold-Roberts Company, dealers in fine papers, is now working from the New Haven, Conn., office of the company.

Walter C. Baylies, a director of the International Paper Company and the International Paper and Power Company, was recently elected president of the Edison Electric Illuminating Company of Boston, to succeed Charles L. Edgar, who died April 14.

Big Pulpwood Fire at Chicoutimi

PORT ALFRED, Que., May 3, 1932—Fire which started April 29 is still burning in the 250,000 cord pulpwood pile of the Consolidated Paper Corporation, at Chicoutimi, valued at $3,000,000.

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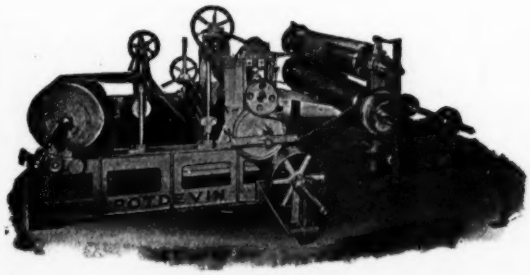

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

SUMMARY

WEEK ENDING APRIL 30, 1932

Cigarette paper	341 cs.
Wall paper	12 bls., 8 cs.
Paper hangings	8 bls., 1 cs.
Painted paper	3 bls., 3 cs.
News print	4976 rolls
Printing paper	12 rolls, 42 cs.
Kraft paper	635 rolls
Wrapping paper	74 cs.
Filter masse	141 bls.
Filter paper	42 bls., 106 cs.
Drawing paper	59 cs.
Parchment paper	14 cs.
Surface coated paper	13 cs.
Baryta coated paper	5 cs.
Metal coated paper	199 cs.
Photo paper	2 cs.
Coated paper	17 cs.
Transfer paper	10 cs.
Decalcomania paper	24 cs.
Tissue paper	30 cs.
Colored paper	3 cs.
Writing paper	2 cs.
Envelopes	41 cs.
Veline paper	2 cs.
Stencil paper	16 cs.
Paste board	6 cs.
Miscellaneous paper	2 bls., 22 cs.

CIGARETTE PAPER

Champagne Paper Corp., Rochambeau, Havre, 21 cs.
Champagne Paper Corp., Ile de France, Havre, 61 cs.
American Tobacco Co., Ile de France, Havre, 110 cs.
Standard Products Corp., Ile de France, Havre, 113 cs.
C. L. Voorhees, Pr. Polk, Genoa, 2 cs.
P. J. Schweitzer, Pr. Polk, Marseilles, 18 cs.
Max Speigel & Son, Deutschland, Hamburg, 16 cs.

WALL PAPER

Universal Car Loading Co., Stuttgart, Bremen, 3 bls.
R. F. Downing & Co., Port Gisborne, London, 1 bl.
Bendix Paper Co., Washington Maru, Hamburg, 8 bls.
Guaranty Trust Co., Deutschland, Hamburg, 6 cs.
——, Berengaria, Southampton, 2 cs.

PAPER HANGINGS

Whiting & Patterson Co. Inc., Berengaria, Southampton, 8 bls., 1 cs.

PAINTED PAPER

Frances Miller, Rochambeau, Havre, 3 bls.
Titan Shipping Co., Rochambeau, Havre, 1 cs.
Hudson F'd'g & Shipping Co., Ile de France, Havre, 2 cs.

NEWS PRINT

Jay Madden Corp., Stuttgart, Bremen, 134 rolls.
Perkins Goodwin & Co., Stuttgart, Bremen, 39 rolls.
Jay Madden Corp., Argosy, Hango, 779 rolls.
——, Argosy, Hango, 431 rolls.
Bank of Montreal, Humberarm, Cornerbrook, 3301 rolls.
Perkins Goodwin & Co., Deutschland, Hamburg, 292 rolls.

PRINTING PAPER

C. Steiner, Stuttgart, Bremen, 10 cs.
S. H. Pomerance, Port Gisborne, London, 12 cs.
——, Columbus, Bremen, 4 cs.
Keuffel & Esser Co., Washington Maru, Hamburg, 12 rolls.
E. Dietzgen & Co., Deutschland, Hamburg, 8 cs.
Martin & Bechtold, Deutschland, Hamburg, 8 cs.

KRAFT PAPER

Walker Goulard Plehn Co., Stuttgart, Bremen, 635 rolls.

WRAPPING PAPER

Sanita Wrapped Products Corp., Pr. Polk, Marseilles, 28 cs.
——, Pr. Polk, Genoa, 27 cs.
Borden Riley Paper Co., Deutschland, Hamburg, 11 cs.
C. Steiner, Deutschland, Hamburg, 8 cs.

FILTER MASSE

P. H. Petry & Co., Washington Maru, Hamburg, 100 bls.
H. Reifenberg, Deutschland, Hamburg, 9 bls.
Henschel Naeve & Co., Deutschland, Hamburg, 12 bls.
Atlantic F'd'g Co., Deutschland, Hamburg, 20 bls.

FILTER PAPER

H. Reeve Angel & Co. Inc., Amer. Farmer, London, 1 cs.
H. Reeve Angel & Co. Inc., Port Gisborne, London, 10 cs.
H. Reeve Angel & Co. Inc., Berengaria, Southampton, 23 cs., 27 bls.
A. Giese & Son, Berengaria, Southampton, 15 bls.
E. Fougera & Co., Berengaria, Southampton, 72 cs.

DRAWING PAPER

C. H. Boulin, Ile de France, 5 cs.
Keuffel & Esser Co., Washington Maru, Hamburg, 54 cs.

PARCHMENT PAPER

International Accep. Bank, Columbus, Bremen, 14 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Stuttgart, Bremen, 11 cs.
National Freight F'd'g Co., Deutschland, Mamburg, 2 cs.

BARYTA COATED PAPER

Globe Shipping Co., Columbus, Bremen, 5 cs.

METAL COATED PAPER

Globe Shipping Co., Columbus, Bremen, 25 cs.
——, Columbus, Bremen, 155 cs.
K. Pauli Co., Deutschland, Hamburg, 11 cs.
Taub Hummell & Schnall, Deutschland, Hamburg, 8 cs.

PHOTO PAPER

Weiss F'd'g Co., Deutschland, Hamburg, 1 cs.
J. J. Gavin, Berengaria, Southampton, 1 cs.

COATED PAPER

Gevaert Co. of America, C. of Alton, Antwerp, 11 cs.
Happel & MacAvoy, Deutschland, Hamburg, 6 cs.

TRANSFER PAPER

Rohner Gehrig & Co., Columbus, Bremen, 10 cs.

DECALCOMANIA PAPER

C. W. Sellers, Columbus, Bremen, 9 cs.
Phoenix Shipping Co., Columbus, Bremen, 4 cs.
C. W. Sellers, Deutschland, Hamburg, 11 cs.

TISSUE PAPER

P. J. Schweitzer, Pr. Polk, Marseilles, 23 cs.
F. C. Strype, Scythia, Liverpool, 7 cs.

COLORED PAPER

P. C. Kuyper & Co., Stuttgart, Bremen, 1 cs.
S. Gilbert, Columbus, Bremen, 2 cs.

WRITING PAPER

Japan Paper Co., Amer. Farmer, London, 2 cs.

ENVELOPES

J. Beckhard & Co., Columbus, Bremen, 18 cs.
——, Columbus, Bremen, 12 cs.
Simfred Co. Inc., Deutschland, Hamburg, 22 cs.

VELINE PAPER

C. L. Voorhees, Pr. Polk, Genoa, 2 cs.

STENCIL PAPER

Wedeman Godkecht & Laly, Inc., Deutschland, Hamburg, 16 cs.

PASTE BOARD

F. C. Strype, Deutschland, Hamburg, 6 cs.

MISCELLANEOUS PAPER

Hensel Bruckman & Lorbacher, Stuttgart, Bremen, 2 cs.
International F'd'g Co., Rochambeau, Havre, 7 cs.
Lewis & Conger, Rochambeau, Havre, 6 cs.
Bush Service Corp., Rochambeau, Havre, 1 cs.
Keller Dorian Paper Co., Ile de France, Havre, 2 cs.
American Express Co., Ile de France, Havre, 2 bls.
Globe Shipping Co., Ile de France, Havre, 1 cs.
E. H. Sargent & Co., Gripsholm, Gothenburg, 1 cs.
Iwai & Co., Tai Yin, Kobe, 1 cs.
Parsons & Whittemore, Inc., Marengo, Hull, 1 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co. Inc., C. of Alton, ——, 245 bls. flax waste; 75 bls. bagging.
E. J. Keller Co. Inc., Marengo, ——, 484 bls. bagging; 287 bls. flax waste; 112 bls. rags.
Armstrong Cork Co., Marengo, Antwerp, 222 bls. rags.
D. C. Andrews & Co., Marengo, Antwerp, 87 bls. rags.
Van Oppen & Co., Marengo, Antwerp, 142 bls. bagging; 65 bls. rags.
Katzenstein & Keene, Inc., Marengo, Antwerp, 468 bls. rags.

OLD ROPE

Banco Coml Italiana Trust Co., Stuttgart, Bremen, 45 coils.
——, London Exchange, London, 55 coils.
——, Marengo, Newcastle, 213 coils, 10 bls.
W. Steck & Co., Marengo, Hull, 48 coils.

CHINA CLAY

L. A. Salomon & Bro., Scythia, Liverpool, 140 bags.

CASEIN

D. C. Andrews & Co., Deutschland, Hamburg, 60 bags.

WOOD PULP

E. J. Keller Co. Inc., Washington Maru, ——, 702 bls. wood pulp, 107 tons.
E. J. Keller Co. Inc., Ammon, ——, 352 bls. wood pulp.
Perkins Goodwin & Co., Gripsholm, Gothenburg, 254 bls. sulphite.
Lagerloef Trading Co., Argosy, Hango, 330 bls. sulphate, 55 tons.
——, Argosy, Hango, 2920 bls. sulphite, 504 tons; 2430 bls. sulphite, 405 tons.
Castle & Overton, Inc., Deutschland, Hamburg, 2400 bls. wood pulp, 480 tons.

WOOD FLOUR

Innis Speiden & Co., Gripsholm, Gothenburg, 726 bags.

WOOD PULP BOARDS

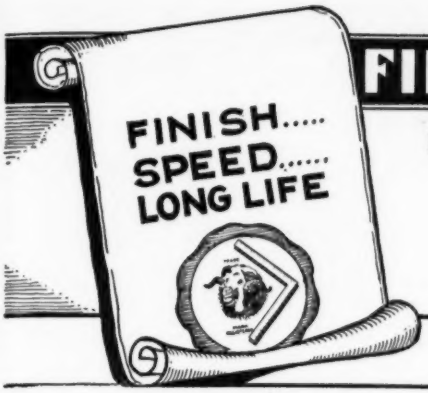
Lagerloef Trading Co., Argosy, Hango, 169 bls., 25 tons.

PHILADELPHIA IMPORTS

WEEK ENDING APRIL 30, 1932

Castle & Overton, Inc., Waukegan, Havre, 93 bls. rags.
Castle & Overton, Inc., Waukegan, Dunkirk, 81 bls. rags.
Lagerloef Trading Co., Argosy, Hango, 595 bls. sulphite, 102 tons; 260 bls. mechanical pulp, 52 tons; 707 rolls wood pulp boards, 76 tons.
Lancaster News, Argosy, Hango, 161 rolls news print.
Castle & Overton, Inc., Argosy, Hango, 677 bls. sulphite, 135 tons.
——, Argosy, Hango, 9776 bls. sulphite, 1696 tons; 3479 bls. sulphate, 679 tons.
Johaneson Wales & Sparre, Inc., Argosy, Gdynia, 508 bls. sulphite, 76 tons.
Atterbury Bros. Inc., Argosy, Gdynia, 337 bls. sulphite, 50 tons.
National Waste Co., Tai Yin, Kobe, 165 bls. rags.
H. W. T. Mali, Tai Yin, Kobe, 35 bls. rags.
Hoffman Lion Mills, Tai Yin, Kobe, 25 bls. rags.
J. M. Hagy Waste Works, Tai Yin, Kobe, 85 bls. rags.
Union Waste Co., Tai Yin, Kobe, 70 bls. rags.
H. G. Lichtenstein, Tai Yin, Kobe, 35 bls. rags.
Parsons & Whittemore, Inc., Capulin, ——, 140 bls. sulphite.
Bulkley Dunton & Co., Hannover, ——, 150 bls. wood pulp.

(Continued on page 52)



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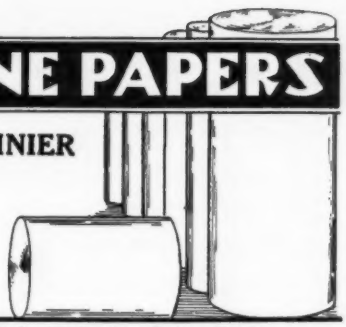

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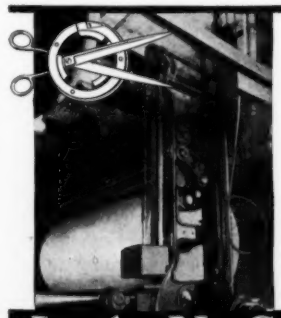

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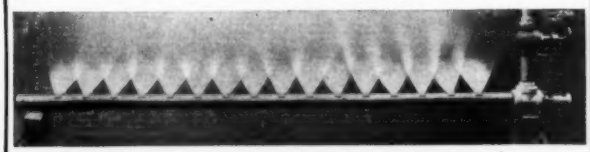


FOR PAPER MACHINE WIRES, FELTS AND SCREENS

THE MOORE & WHITE COMPANY
Paper Mill Machinery Philadelphia, U. S. A.

Imports of Paper and Paper Stock

(Continued from page 50)

CAMDEN IMPORTS

WEEK ENDING APRIL 30, 1932

——, Argosy, Hango, 6858 bls. sulphate, 1145 tons.

NORFOLK IMPORTS

WEEK ENDING APRIL 30, 1932

E. Butterworth & Co. Inc., C. of Alton, Antwerp, 235 bls. bagging.

Irving Trust Co., C. of Alton, Antwerp, 16 bls. bagging.

Dickman Wright & Pugh, Inc., C. of Alton, Antwerp, 69 bls. bagging.

Bank of Montreal, Humberarm, Cornerbrook, 8105 rolls news print.

BALTIMORE IMPORTS

WEEK ENDING APRIL 30, 1932

Congoleum Nairn Co., C. of Alton, Antwerp, 123 bls. rags.

Parsons & Whittemore, Inc., C. of Norfolk, ——, 280 bls. sulphite.

Bulkley Dunton & Co., West Eldara, ——, 800 bls. wood pulp.

Bulkley Dunton & Co., Elmshorn, ——, 1100 bls. wood pulp.

Bulkley Dunton & Co., Harburg, ——, 2025 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING APRIL 30, 1932

Parsons & Whittemore, Inc., Toledo, ——, 162 bls. sulphite.

BOSTON IMPORTS

WEEK ENDING APRIL 30, 1932

Fielding & Co., Scythia, Liverpool, 6 cs. waxed paper.

J. B. Morse & Co., Scythia, Liverpool, 317 bags hide cuttings.

F. S. Webster, Scythia, Liverpool, 15 cs. carbonized tissue paper.

G. F. Malcolm, Inc., Scythia, Liverpool, 26 cs. carbonized tissue paper.

Spaulding Fibre Co., Marengo, Antwerp, 500 bls. flax waste.

Meredith Linen Mills, Marengo, Antwerp, 79 bls. flax waste.

American Express Co., Marengo, Antwerp, 2 rolls wrapping paper.

Axel Malm Connects With Smith-Lewis

After fifteen years in business in Philadelphia and New York City as consulting mechanical engineer on special automatic paper making and paper products machinery, Axel Malm, M.E.C.E., A.S.M.E., has become connected with the Smith-Lewis interests in Lowville, N. Y., and has succeeded in completing new and patented machines for the manufacturing of paper specialties. These machines are being manufactured by the Ryther & Pringle Company, Inc., in Carthage, N. Y., who are specialists in paper making equipment.

Mr. Malm was Director of Exhibits of the Sesquicentennial Exposition held in Philadelphia in 1926, and his thorough knowledge of paper and its workings dates back to his early training in Denmark and Sweden before coming to this country in 1910. During the World War he was in the High Explosive Division in Washington and designed and manufactured many high speed rotary machines for making paper powder containers.

Further Study of Paper Towels

WASHINGTON, D. C., April 6, 1932—A report of further study of paper towels has been submitted by the Bureau of Standards to manufacturers and others, for their consideration of a purchase specification for this commodity, developed with their cooperation. Revision of a specification developed in a similar way several years ago for use of some of the Government departments was found necessary, because it did not guard against decrease in absorptiveness, which occasionally occurred during prolonged storage.

A preliminary study of seventeen samples, representative of the different types, resulted in the development of the following testing procedure, which was used for a second lot of thirteen samples, all of which were received shortly after they were manufactured. The towels were tested for weight, bursting strength, tensile breaking strength, fiber composition, absorptiveness, acidity and resin content. The test for absorptiveness was repeated after heating at 100 deg. C. for periods of ½, 1, 2 and 3 hours, and after storage under normal conditions for periods of 1, 2, 4, and 6 months from date of manufacture.

It was found that the 1-hour heat treatment approximated the 6-months storage period in regard to increase in time of absorption of water, therefore this appears to be a very definite and convenient way of testing the stability of towels in this respect. As the previous tests had shown that the strength did not decrease appreciably in 6-months storage, no further tests were made in this respect. The tensile breaking strength appears to be a better strength criterion than the bursting strength as the latter gives much more erratic results with this type of material. No constant relation between the desirable qualities of towels and their components was found, but in general the better qualities were associated with long, clean fibers, and minimum resin and acid contents.

It seems from the test results obtained that weight, tensile breaking strength, and rate of absorption after heating the towels 1 hour at 100 deg. C. are sufficient test requirements for quality, and limits in these respects, defining two grades of towels, were suggested.

E. D. Jones Marketing Liebeck Fibrators

Renson Engineering, Inc., of 120 Broadway, New York, licensees under Scott Paper Company's patent covering the Liebeck Fibrator for defibering and disintegrating pulp stocks, announce that arrangements have been completed with E. D. Jones & Sons Company, of Pittsfield, Mass., whereby the Jones Company has an exclusive license to manufacture and sell Liebeck Fibrators in the United States, its territorial possessions and Canada.

The Liebeck Fibrator, described on page 115 of PAPER TRADE JOURNAL of February 18, 1932, represents a significant advance in the art of breaking up baled pulp (including frozen bales), whether sulphite, sulphate, soda or ground wood.

The E. D. Jones & Sons Company will be glad to furnish full information and illustrations regarding design, operation and advantages of the Liebeck Fibrator to any party interested.

Paper Houses Add New Lines

New lines have been added by a number of Chicago paper houses during the past few weeks. Dwight Brothers are now featuring the addition of Duratex Cover, made by the Holyoke Card and Paper Company, coming in nine colors, two sizes and Bradner-Smith have added Northland English Finish Book, made by the Northwest Paper Company, in white and three weights. Bermingham & Prosser, in a neatly printed folder, are announcing the qualities of Oxford Mainefold Coated, made by the Oxford Paper Company, coming in both white and ivory.

Wood Tanks

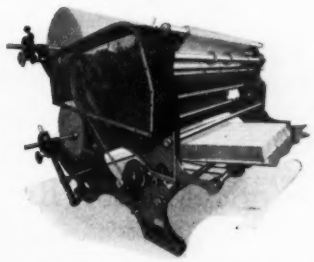
are not Corrodible

Half-Round Stuff Chests made of 3-inch Genuine Red Gulf Cypress with heavy Yellow Pine bracing. Built and erected in the Frank Smith Paper Mill at Middletown, Ohio.

The Hauser-Stander Tank Company
Cincinnati Ohio

Wood tanks for every purpose in the paper mill, accurately made and only the best material and workmanship are used in their construction

H-S MACHINE CO.



New High Speed Towel Interfolder

Will fold from 30 to 40 cases of standard Interfolded Towels per hour. Ball bearing throughout. Accurate and noiseless in operation.
We manufacture stock machines for every converting purpose and design special equipment to meet any paper converting problem.

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MULTIPLE PLY DRYER FELTS

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ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

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For 88 Years Makers of Fine Faced Felts For Papermakers

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POCKET SCALES

Gives accurate basis weight by weighing a 2x4" sample. Most practical for buyers and sellers for comparison of weights of envelopes, folders, letterheads and all small forms.

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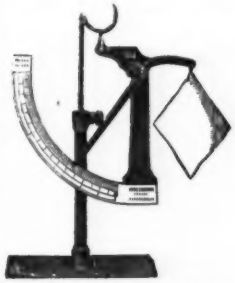

Paper Testers for every required test.

TESTING MACHINES, INC.
314 BROADWAY NEW YORK, N. Y.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, May 4, 1932.

Trading in the local paper market was only moderately active during the past week. Demand for the various standard grades of paper is restricted at present. Sales forces of the leading paper organizations, however, are fairly optimistic, due to the fact that stocks in the hands of the dealers are low. Prices are generally unchanged.

Some improvement was noticed in the news print market. Production has been speeded up slightly, and shipments have been fairly heavy. With demand more persistent, stocks at the mills have diminished accordingly, and at present are lower than at this time last year. The price situation, however, continues unsatisfactory, and competition from abroad is intense.

The position of the paper board market is practically unchanged. Quotations on the various grades are generally holding to previously quoted levels. Demand for fine papers is fairly active, although prices are irregular. Tissues are moving in seasonal volume. The coarse paper market is steady and kraft wrapping paper prices are well maintained.

Mechanical Pulp

Conditions in the ground wood market are fairly satisfactory. Mainly due to the Swedish pulp mill workers strike, demand for dry mechanical pulp is gradually improving. The contract movement is well up to average for the time of year. Prices of both imported and domestic ground wood pulp are holding to schedule, without difficulty.

Chemical Pulp

Although the chemical pulp market is rather quiet at present there are a number of inquiries around, some of which should materialize into good business. No further developments have been reported in the Swedish pulp mill workers strike, which is a factor in creating the prevailing firm undertone. Quotations are generally holding up well.

Old Rope and Bagging

Paper mill demand for old rope is rather restricted. Little interest is being evinced in either domestic or imported old manila rope. Small mixed rope is only moving slowly. Prices are unchanged. Most of the business transacted in the bagging market is routine. Scrap and gunny bagging are fairly active. Roofing bagging is steady.

Rags

The domestic rag market continues listless. With the exception of a few grades, demand for cotton cuttings is light. Roofing grades are arousing some seasonal activity. Prices are nominal. The imported rag market is dull, although roofing grades are in moderate request. Fluctuations of foreign currencies continue to hamper trading.

Waste Paper

Board mill demand for the lower grades of paper stock continues brisk, and with offerings limited, prices are well maintained at recently quoted levels. Incidentally, the export movement of over-issue and folded news is expanding slightly. The better grades of waste paper are comparatively quiet and prices are easier than of late.

Twine

The local twine market is generally marking time. Demand for the various grades at present is mostly along routine lines. Supplies are moving into consumption at a fairly steady pace for the season. Competition for desirable orders continues keen. No radical price changes have been reported, however.

Michigan Wrapping Men Organize

The final organization meeting of the Michigan Wrapping Paper Merchants Association was held at Lansing, Mich., April 19. This organization has been formed as a constituent local group of the National Paper Trade Association and includes houses in Detroit, Flint, Jackson and Lansing that were formerly members of the Middle States Wrapping Paper Association and also new members in Grand Rapids, Kalamazoo, etc. The following officers were elected at the meeting:

President, Don M. Finch, Crown Paper and Bag Company, Jackson; Vice-President, A. J. House, the Union Paper and Twine Company, Detroit; Secretary-Treasurer, C. A. Bonsor, Bermingham & Prosser Company, Kalamazoo.

Racquette River Log Drive Starts

[FROM OUR REGULAR CORRESPONDENT]

POTSDAM, N. Y., May 2, 1932.—The annual spring log drive on the Raquette River north of here is expected to start within the next few days and several thousand cords of pulpwood are to be floated to the mills of the Raquette River Paper Company. A contracting firm from this village is directing the drive.

In the Meacham Lake section about 27,000 cords of pulpwood are piled up and are to be floated to the outlet in huge rafts. Later the timber is to be floated down the river under the guidance of lumberjacks. Later on the pulpwood is to be loaded in freight cars and sent to the mills of the International Paper Company and St. Regis mills in Northern New York.

Pulpwood Export Permit

Up to the present no decision has been reached by the British Columbia Government in connection with a request for limited permission under proper safeguards to permit export of pulpwood to the United States for pulp making. This point is being pressed by Liberal members of the Legislature on the petition of the Prince Rupert Board of Trade and various lumbermen's organizations. Exponents of granting cord wood export permission based their appeal on the contention that it would help small operators and farmers who found the tie market their usual sideline source of revenue, much curtailed owing to the present situation in Canada.

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INDUSTRIAL CHEMICALS

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TOILET PAPER MACHINES
For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES
For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
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CLINTON STARCHES

Special Grades for Beater and Top Sizing

Manufactured by

CLINTON CORN SYRUP REFINING COMPANY

CLINTON, IOWA

QUALITY SERVICE

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, May 4, 1932.

BLANC FIXE.—The position of the blanc fixe market is unchanged. Demand is moderately active. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Conditions in the bleaching powder market are fairly satisfactory. The contract movement is seasonal. Prices are holding to formerly quoted levels. Bleaching powder is selling at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues quiet. Domestic standard ground is quoted at 6 cents and finely ground at 7 cents per pound. Argentine standard ground is selling at 8¼ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market. Prices are generally holding to schedule. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is fairly active. Contract shipments are moving with regularity. Imported china clay is still selling at from $11 to $13 per ton, ship side; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Most of the business transacted in the chlorine market during the past week was along routine lines. The contract movement is fairly satisfactory. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is slightly easier. The grades of gum rosin used in the paper mills are quoted at from $3.50 to $4.00 per 280 pounds, in barrels, at works. Wood rosin is selling at $2.80 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Demand for salt cake is rather restricted. Prices are holding to schedule. Salt Cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works. Imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—Some improvement was noticed in the soda ash market. Demand for this product is fairly persistent. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; bags, $1.25; and in barrels, $1.38.

STARCH.—The starch market is exhibiting a fairly strong undertone. Contract shipments are going forward at a normal pace for the season. Special paper making starch is quoted at $2.54, in bags; and at $2.81 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Trading in the sulphate of alumina market is light. Prices are holding to schedule, however. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is fairly heavy for the time of year. The contract movement is well up to average. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	5.00	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Lithograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.50	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middies	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¾	@	—

(Delivered New York)

News, per ton—			
Roll, contract	53.00	@	—
Rolls, spot	53.00	@	—
Sheets	58.00	@	—
Side Runs	38.00	@	42.00
Kraft—			
No. 1 Domestic	4.75	@	6.00
No. 2 Domestic	3.25	@	4.00
Southern	3.25	@	4.00
Imported	3.50	@	4.30
Boards—per ton—			
News	24.00	@	25.00
Straw	34.50	@	45.00
Chip	24.00	@	25.00
Binders' Boards	62.00	@	70.00
Standard 85 Test Liner	30.00	@	32.50
Sgl. Mla. Lt. Chip	35.00	@	37.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	20.00	@	22.00
Dry	22.00	@	24.00

(F. o. b. Mill)

No. 1 Domestic	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.10	@	2.90
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.50	@	1.65
Mitscherlich unbleached	1.60	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.50	@	1.65
No. 2 Kraft	1.35	@	1.40
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.00	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.50	@	1.65
Mitscherlich	2.40	@	2.55
Kraft (Domestic)	1.60	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.50	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	4.50	@	4.75
New White, No. 2	3.00	@	3.50
Silesias No. 1	3.75	@	4.00
New Unbleached	5.25	@	6.25
New Blue Prints	3.25	@	3.50
New Soft Blacks	2.75	@	3.00
Blue Overall	3.25	@	3.75
Fancy	1.75	@	2.00
Washables	1.25	@	1.50
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.25	@	3.50
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.40	@	3.50
Light Flannelettes	3.25	@	3.50
Unbleached Cuttings	5.50	@	6.00
New White Cuttings	4.75	@	5.00
New Light Oxfords	4.00	@	4.25
New Light Prints	2.00	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	4.00	@	4.25
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.90	@	2.10
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.90	@	2.00
German Blue Linens	1.80	@	1.90
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.10	@	1.20
Domestic	1.15	@	1.25
Wool Tares, light	.90	@	.95
Wool Tares, heavy	.90	@	.95
Bright Bagging	.85	@	.90
Small Mixed Rope	.80	@	.90
Manila Rope—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.75
New Burlap Cut	1.65	@	1.75
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.15	@	2.35
Hard, white, No. 2	1.50	@	1.60
Soft, white, No. 1	1.40	@	1.50
White envelope cuttings	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Overissue Mag.	.65	@	.75
Solid Flat Book	.60	@	.65
Crumped No. 1	.45	@	.50
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.60	@	.70
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut.	1.60	@	1.70
New Cuttings	1.20	@	1.30
Extra No. 1 old	1.00	@	1.05
Print	.40	@	.45
Bogus Wrapper	.40	@	.45
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.80	@	.90
News—			
No. 1 White News	1.25	@	1.35
Strictly Overissue	.35	@	.45
Strictly Folded	.30	@	.35
No. 1 Mixed Paper	.20	@	.25

WOOD PULP
AGENTS

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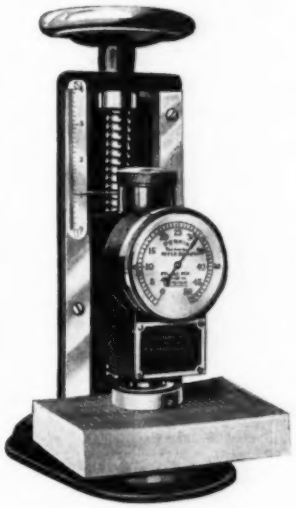
60 EAST 42nd ST.
NEW YORK

PERKINS
PRESSURE BULKER

Co-ordinates sheet count with bulk in inches.



Positive uniform standard for gauging bulk of paper. Simply place sheets between contact faces and clamp down until desired pressure is indicated on the dial. The exact thickness can then be read from the vertical scale.

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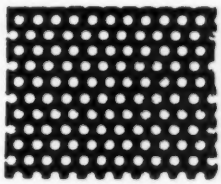


".065" Round

CHARLES MUNDT & SONS
63-65 FAIRMONT AVE. JERSEY CITY, N. J.

Twines

(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.09¾	@	.11¾
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.08¼	@	.10¼
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	05	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06¼	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.50	@	5.00
Southern Kraft	3.25	@	—
No. 2 Kraft	3.25	@	—
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03½
Manila Tissue	.07	@	.07½
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	53.00	@	—
Sheets	58.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.75	@	1.80
No. 1 Hard White	1.55	@	1.60
No. 1 Soft White	1.40	@	1.45
Ledger & Writings	.55	@	.65
Solid Books	.50	@	.55
Blanks	1.15	@	1.20
Krafts	.95	@	1.00
New Kraft Cuts	1.40	@	1.50
Manila Env. Cuts	1.40	@	1.50
Ex. No. 1 Manila	1.00	@	1.10
Print Manila	.35	@	.40
Overissue News	.45	@	.55
Old Newspapers—			
No. 1	.45	@	.50
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.25	@	.30
No. 2	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.03¼	@	.06
No. 2 Kraft	.03¼	@	.04¼
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	30.00	@	32.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	63.00	@	65.00
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.05	@	.05½
New White, No. 2	.04	@	.04¼
Light Silesias	.04	@	.04½
Silesias, No. 1	.04	@	.04½
Black Silesias, soft	.04	@	—
New Unbleached	.05½	@	.06
Washable, No. 1	.02	@	.02½
Blue Overall	.04	@	.04½
Cottons—According to grades—			
Washable, No. 2	.01½	@	.02
New Blue	.01¾	@	.02
Fancy	.02	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O.D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.50
M. G.	3.50	@	4.00
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1	1.00	@	1.10
Repacked	.70	@	.80

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.90	@	2.00
No. 2 Hard White	1.75	@	1.80
No. 1 Soft White	1.60	@	1.70
No. 2 Soft White	1.40	@	1.50
No. 1 Mixed	.45	@	.55
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.80	@	.90
No. 1 Books, heavy	.60	@	—
No. 2 Books, light	.45	@	—
No. 1 New Manila	1.25	@	1.50
No. 1 Old Manila	1.00	@	1.25
Print Manila	.45	@	—
Container Manila	.40	@	.45
Old Kraft	.90	@	1.00
Common Paper	.20	@	—
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.25	@	.35
Binders Board, Chip	.25	@	.35
Corrugated Board	.35	@	.40
Overissue News	.45	@	.50
Old Newspaper	.30	@	.35

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¾
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¼	@	.03½

(F. o. b. Boston)

Southern Kraft	.03¾	@	.03½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	—	@	52.50
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	25.00	@	30.00
Chip Board	—	@	25.00
Chip Board (Creasing)	25.00	@	27.50
Single Manila Lined Chip	—	@	35.00
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	1.40	@	1.60
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.30	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.90	@	1.10
No. 1 Books, heavy	.60	@	.70
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.50	@	1.60
No. 1 Old Manila	.80	@	.90
White Blank News	1.20	@	1.30
Kraft No. 1	.75	@	.85
Manila	.80	@	.90
No. 1 Mixed Paper	.15	@	.17½
Print Manila	.35	@	.40
Overissue News	.35	@	.45
Old Newspapers	.27½	@	.32½
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.22½	@	.27½
Screening Wrappers	.25	@	.32½

Bagging

(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.00	@	1.10
Domestic	1.55	@	1.75
Manila Rope—			
Foreign	1.40	@	1.60
Domestic	1.55	&	1.75
Transmission Rope	—	@	.90
Mixed String	.30	@	.35
Jute Rope	—	@	.85
Jute Carpet Threads	.35	@	.50
Bleachery Burlap	—	@	2.25
Scrap Burlap	.65	@	.80
No. 1 Scrap Burlap	.80	@	.90
Scrap Sisal	.75	@	1.00
Scrap Sisal for shredding	—	@	1.25
Wool Tares, heavy	.80	@	90
New Burlap Cutting	.75	@	1.00
Australian Wool Pouches	1.25	@	1.50
Heavy Baling Bagging	1.25	@	1.35
Paper Mill Bagging	.60	@	.70
Bagging No. 2	—	@	.40
No. 1 Burlap	—	@	3.00

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.04½	@	.04¾
New White No. 2	.03	@	.03¾
Silesias No. 1	.04½	@	.05
New Black Silesias	.02½	@	.02¾
New Unbleached	.04½	@	.05¼
Fancy	—	@	.03¾
Washable	—	@	.03½
Cottons—According to grades—			
Blue Overalls	—	@	.05
New Black, soft	.04	@	.04¼
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03¾
New Canvas	.08	@	.08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.25	@	2.50
White No. 2—			
Repacked	.02¼	@	.02½
Miscellaneous	.02	@	.02¼
Twos and Blues	1.00	@	1.25
Thirds and Blues—			
Repacked	—	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	.58	@	.60
No. 2	.48	@	.50
No. 3	.43	@	.48

Foreign Rags

(F. o. b. Boston)

Dark Cottons	—	@	.60
New No. 1 White Shirt Cuttings	4.50	@	5.00
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.10	@	1.15
Old Linsey Garments	.70	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	3.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	45.00	@	—
Sulphite, news grade	40.00	@	—
Sulphite, bleached	58.00	@	65.00
Sulphate	55.00	@	—

Old Waste Paper

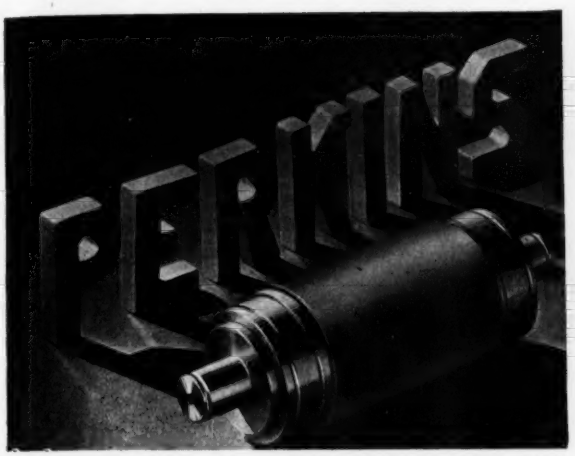
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.50	@	—
Soft White	2.25	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.65	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼



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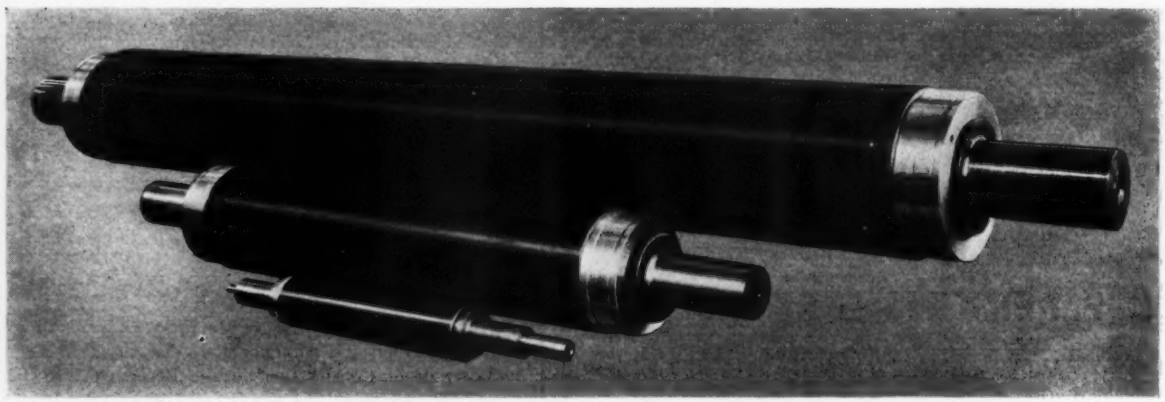

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